CREATION CENTRED

IN

CHRIST

VOL. II.

TABLES OF VERNAL EQUINOXES

AND NEW MOONS

for 3555 years

- I. IN OLD STYLE FROM B.C. 1622 TO A.D. 1934
- 2. IN NEW STYLE FROM THE ENGLISH REFORMATION OF THE CALENDAR, A.D. 1752 TO A.D. 1934

Computed from Prophetic Times in the Book of Daniel regarded as Astronomical Cycles

BY

H. GRATTAN GUINNESS. D.D., F.R.A.S

Zondom
HODDER AND STOUGHTON
27 PATERNOSTER ROW
1896





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TESTIMONIALS FROM ASTRONOMERS.

Some copies of the Tables contained in this volume were printed in 1895 and sent to a few leading astronomers in Great Britain, including Dr. Downing, Superintendent of the Nautical Almanac; Mr. Lynn, long connected with Greenwich Observatory; Dr. Drever, of Armagh Observatory, and Mr. Marth, of Markree Observatory. The following testimonials and letters from these astronomers express the results of their examination of the work. Dr. Downing's position, as appointed by Government to superintend the preparation of an annual volume of Astronomical Tables, containing 500 pages of important matter, Mr. Lynn's frequent and valuable contributions to astronomical literature, Dr. Dreyer's experience as formerly Editor of the Astronomical Journal "Copernicus," and as the author of various standard astronomical works, and Mr. Marth's widely known and almost unrivalled ability as a mathematician and astronomer, give ample value to their testimonies.

Testimonial from Dr. Dreyer, F.R.A.S.

"These Tables give the date, hour and minute of every new moon from the year B.C. 1622 to A.D. 1934, as well as the Dominical letters and the time of vernal equinox for every year of this period. Hitherto chronologists who required the time of any new moon have had to calculate it from Largeteau's Tables published in the Connaissance des Temps pour l'an 1846; or, if very great accuracy was required, by Oppolzer's Syzygien-Tafeln fur den mond (Leipzig, 1881); but Dr. Guinness's Tables give the time of new moon by mere inspection without any calculation whatever. In his introduction the author illustrates the accuracy of

his tables by a comparison with the time of the first solar eclipse of each century, taken from Oppolzer's Canon der Finsternisse, and shows that his tables never differ from these more than two hours, while the differences frequently amount to only a few minutes.

"I have myself tested the Tables by means of a number of eclipses rigorously computed by Stockwell (eclipses observed in India B.C. 1386, 1301, 1250), by Schjellerup (B.C. 707, 599, and 547, observed in China), and by New comb (Arabian eclipses from the middle ages), and with the same result. These Tables are therefore somewhat more accurate than those of Largeteau, and of course vastly more convenient, as they do not entail any calculation.

"These Tables have been calculated by means of the luni-solar cycles discovered by the Swiss astronomer, De Cheseaux, about the middle of last century, but hitherto very little noticed by scientific men. The cyclical new moons thus found are given in the tables side by side with the true new moons obtained from them by equating for solar and lunar anomaly. Astronomers will be much interested in the remarkable accuracy obtained in this way by Dr. Guinness.

"The Tables will be of great practical value to chronologists and historians, who can find from them the day of the week and the age of the moon corresponding to any date. Particularly to students of Oriental history they will be invaluable, as the moon is the clock hand of Eastern nations. But they will also in many cases be of great use to astronomers as a ready means of finding, by a mere glance, the whereabouts of the moon in the sky at any time during the last three thousand years.

"J. L. E. DREYER."

"Armage Observatory, "
April 8th, 1895."

The above testimonial from Dr. Dreyer is reprinted from

the Introduction to Volume I., as some, into whose hands these Tables may come, will not possess a copy of the earlier volume.

Testimonial from Dr. Downing, F.R.A.S., Superintendent of the Nautical Almanac.

NAUTICAL ALMANAC OFFICE,

3, VERULAM BUILDINGS, GRAY'S INN, W.C.,

DEAR SIR,-

March 23rd, 1895.

I have examined your volume of Astronomical Tables containing Dominical letters, Vernal Equinoxes and New and Full Moons for some thirty centuries. I think you have shown that De Cheseaux' cycles of 2300 and 1040 years (by means of which your times are deduced) are not only curiosities of astronomy, but are sufficiently accurate to be turned to practical use for the computation of the positions of the Sun and Moon at distant epochs. The comparison of your results with those of Oppolzer's Canon der Finsternisse and other authorities to which you refer in the introduction would of itself be sufficient to justify you in claiming a remarkable degree of accuracy for your Tables. But in addition to this I have examined a great number of your results, and find that a discordance of about three hours between your times and those computed from various Tables that were accessible to me, is the greatest discordance to be apprehended. For any purposes, therefore, for which an error of this magnitude in distant dates is immaterial, your Tables may be used with the greatest confidence.

You have made your Tables considerably more interesting and useful by giving, in addition to the times of Mean, New and Full Moon, those of True New and Full Moon, deduced from the former by the application of the two principal inequalities.

Yours faithfully,
A. M. W. DOWNING.

Letter from W. T. Lynn, Esq., F.R.A.S.

S, SOUTH VALE,

BLACKHEATH, S.E.,

March 25th, 1895.

DEAR SIR,-

I may now safely say that your New Tables are abundantly accurate for all historical and chronological purposes, in many of which they will doubtless be found very useful. They have evidently been computed with great care and accuracy, and the comparison with Oppolzer's Canon was a highly satisfactory check.

Yours very truly, W. T. LYNN.

Letter from A. Marth, Esq., F.R.A.S.

MARKREE OBSERVATORY,
COLLOONEY, IRELAND,
March 16th, 1895.

DEAR DR. GUINNESS,-

Most gratefully I beg to acknowledge the receipt of your very kind letter and of your new book. As it happens we have been working in different portions of the same field, and I highly appreciate the thoroughness with which you have tilled your portion. As regards the chief aim you have at heart, the proving of Daniel's prophetic 2,300 days to refer to the soli-lunar cycle of 2,300 years, it would have been sufficient to give the list of comparisons on p.xxvii. of your Tables. That Daniel's periods were not derived from his understanding science and being in possession of "the learning of the Chaldeans" is plain from the statement that he had to ask for the meaning of the vision including the times mentioned. But if it was not intended that the revelation should be understood till a late time, and that it should remain a dark mystery to some, you will have to acquiesce in the failure of many truth-seekers to lift the veil. The bulk of your book enables astronomers to know the whereabouts of the moon at any time during these thousands of years. What I have been aiming at, but what I have not yet been able to accomplish except for a portion of that period, is to provide astronomers the data for finding the whereabouts of the old planets. If nothing too serious interferes with my working diligently at it during the next six or eight weeks I hope to get "a Table for finding by means of modern Ephemerides the whereabouts of the old planets during the six centuries A.D. 1400–2000, and also outside of these limits" ready and printed about midsummer. In comparison with your book it will be a tiny publication, the data for each year filling only a single line . . .

With grateful thanks,

Yours sincerely,

A. MARTH.

In a later letter Mr. Marth verifies the correctness of the new moons for the year B.C. 1622, the starting point of the Tables, by means of Schram's Tables. Employing Schram's data, and reducing to Jerusalem civil time, he finds the following:—

| | | | | d | h | m |
|------------|---------|-----------|--------|--------|----|----|
| B.C.—1622. | Schram. | New Moon. | April. | 5 | 3 | 1 |
| 17 | Tables. | 17 | ,, | 5 | 3 | 38 |
| *, | Schram. | ,, | May. | | 10 | 6 |
| " | Tables. | ,, | 17 | 4 | 11 | 17 |
| 27 | Schram. | " | June. | 2 | 18 | 7 |
| " | Tables. | " | 31 | 2 | 20 | 2 |

The differences are slight for such distant dates computed by wholly different methods.

Mr. Marth has been kind enough to compute a Table by which the mean Vernal Equinoxes in this volume may be corrected for true Vernal Equinoxes. The differences are inconsiderable for the last twenty-five centuries, ranging in that period from 8 minutes to 1 h. 25 m. He has also calcu-

lated from Leverrier's Tables the length of the Tropical year at different dates, and it will be observed with interest that its length at the commencement of the Christian era, as thus deduced, 395 d. 5 h. 48 m. 56 s. corresponds exactly with its length according to the 1,040 years "Daniel cycle" discovered by De Cheseaux. Both these Tables by Mr. Marth will be found at the end of the Introduction.

I desire to acknowledge the kindness of Dr. Dreyer in reading the proof sheets of the astronomical portions of vol. i. while they were passing through the press. The following extract from one of his letters casts some additional light on the value and accuracy of the Tables.

"I certainly think that your Tables will be found very useful by historians and chronologists, at any rate I know that to me personally they will be extremely useful and convenient, as I am particularly fond of studying the history of astronomy, and have not infrequently missed a Table like yours. And it must be confessed that the lunar theory is not as yet in a sufficiently satisfactory state to enable us to calculate the places of the Moon for, say B.C. 1000, with a very much greater accuracy than that of your Tables. Whether ancient eclipses really give a much larger value for the secular acceleration than theory, is also very doubtful; from the mediæval ones Newcomb found only about 8."

I have never seen Cheseaux's book, but hope to see it the next time I am in Edinburgh, as I see there is a copy in the library of the R. Observatory, and I look forward with much interest to the reading of it.

"Once more thanking you for your kindness in presenting me with a copy of your valuable work.

"Believe me,

"Yours very truly,
"J. L. E. DREYER."

INTRODUCTION TO THE TABLES.

A knowledge of the dates of the new and full moons and vernal equinoxes is of primary value in the study of civil and sacred history and chronology.

In the Jewish Calendar the entire series of dates is dependent on the position of the Passover, which in its turn is regulated by the time of the full moon of the vernal equinox. Similarly all the dates in the Christian Ecclesiastical Calendar depend on the position of Easter, which is determined by the time of the first full moon following the vernal equinox. The Jewish feasts of Passover, Pentecost, Tabernacles, etc., were appointed to take place on certain days of the months measuring the sacred year, while these months were reckoned from the lunar phasis, or first appearance of the new moon. Without a knowledge of the exact times of new moons and vernal equinoxes it is impossible to fix or verify the dates of a great variety and multiplicity of events in the long course of Jewish and Christian history. On the other hand, such a knowledge is of considerable practical value in the study of civil history and chronology-Egyptian, Assyrian, Babylonish, Persian, Grecian, Roman, Mohammedan, Indian, Chinese, Early, Mediæval and Modern, in all of which both solar and lunar dates, especially the dates of eclipses, are of constant use and occurrence.

The following tables give the times of all the vernal equinoxes and new moons for 3,555 years, from B.C. 1622, the probable date of the Exodus, the starting point of the Jewish Calendar, to A.D. 1934. For the convenience of students of Sacred Chronology the solar and lunar dates are

stated in Jerusalem civil time, which is 2 h. 21 m. in advance of Greenwich time.

The times of the full moons of all lunar eclipses are added, from B.C. 1207 to A.D. 1934. As solar eclipses invariably coincide with new moons, no separate statement of these is presented. The observed or calculated times of solar and lunar eclipses can be employed to verify the correctness of the new and full moons of these tables. As a matter of fact the tables have been thus verified by a careful comparison with the records of eclipse chronology, and especially with the 12,348 solar and lunar eclipses in Oppolzer's invaluable Canon der Finsternisse, from B.C. 1207 to A.D. 1934.

The Dominical letter is given for every year, and a glance at the Dominical Tables appended to this introduction will be sufficient in order to ascertain the day of the week of any of the solar and lunar dates in the tables of equinoxes and new moons.

The method employed in calculating the Tables is as follows: the Tables are based upon the primary natural cycles adjusted to the correction of the Jewish and Christian Calendars.

- 1. Before their employment of the 19 years' Lunar cycle the Jews used the cycle of 84 years (7 × 12) in the regulation of their Calendar. The error of this cycle accumulates in 15 repetitions to an entire month. Hence the primary natural cycle adjusted to its correction is 84 × 15, or 1,260 tropical years, a cycle in which the years and months very closely agree.
- 2. The Modern Jewish Calendar, especially as dating from Rabbi Hillel's Tables, A.D. 353, is based on the 19 years lunar cycle, which, as discovered by the Greek mathematician Meton, B.C. 432, still bears his name. The error of this cycle is so small (being only 2 h. 4 m.), as to give it an unrivalled position among the lesser lunar cycles, and to justify its employment as the foundation of the calendar in later Greek,

and Christian, as well as in Jewish chronology. The primary natural cycle adjusted to the correction of the 19 years cycle is that of 2,300 years, in which the error accumulates to between ten and eleven days, and thus equals the epact of a single year (employing the word "epact" in the sense of the excess of the tropical year above 12 synodic months). The 28,435 months of 121 Metonic cycles exceed 2,299 tropical years by 10 to 11 days, or the epact of the 2,300th year, and with the remaining 12 lunations of that year make 28,447 months, or 2,300 tropical years; a cycle remarkable not only for the closeness of the agreement of months and years, but as the only secular cycle known.

- 3. The cyclical character of the periods of 1,260 and 2,300 years was discovered more than a century ago by the Swiss astronomer De Cheseaux, and also that their difference, 1,040 years, forms the most accurate luni-solar cycle known. De Cheseaux considered this cycle to be absolutely accurate as a cycle of the tropical year, synodic month, and solar day. More modern measures show it to have an error of about 1½ hours; but that error diminishes as we ascend the stream of past time, and disappears altogether at about the date of the Jewish captivity in Babylon, when the length of the solar year was six or seven seconds greater than it is at present; in other words, 1,040 tropical years at the date of the Babylonish captivity very closely agreed with 12,863 lunations, and both with 379,852 solar days.
- 4. The 2,300 years cycle is not only a cycle of the tropical year and synodic month, but also (as was discovered in the preparation of the present tables) a cycle of the anomalistic month, the agreement being remarkable for its accuracy. The 840,057 days of 2,300 years are just 30,487 anomalistic months.
- 5. The 2,300 years cycle measures 40 days of the "annus magnus" of the revolution of the Solar Perigee with reference to the Equinoxes.

Employing these fundamental natural cycles as the basis of the construction of an extensive calendar, embracing the whole range of Jewish and Christian as well as the larger part of civil history, the problem we have worked out has taken the following form—given these primary cycles; let it be required, to deduce from these a complete decursus of calendar times, solar and lunar, for the period of 3,555 years, from B.C. 1622 to A.D. 1934.

The possibility of such a deduction owes its special interest and importance to the place which these cycles occupy in the volume of Revelation.

The deduction of the Tropical and Anomalistic years, and the Synodic and Anomalistic months from these cycles, is accomplished as follows:—

- (1) Tropical year.
 - (a) by 2300 y. $840057 \text{ d.} \div 2300 = 365.24217391 \text{ d.}$
 - (b) by 1040 y. $379852 \text{ d.} \div 1040 = 365.24230769 \text{ d.}$

(2) Anomalistic year.

By 2300 years cy.=40 days of revol. of Perigee with reference to the Equinoxes.

40 d.: 365.242 d.:: 2300 y.: 21000 y.

Trop. y.
$$+\frac{\text{Trop. y.}}{21000} = 365 \text{ d. } 6 \text{ h. } 13 \text{ m. } 52 \text{ s.}$$

(3) Synodic month.

By 1040 y. cy. 379852 d. ÷12863=29 d. 12 h. 44 m. 3 s.

(4) Anomalistic month.

By 2300 y. cy. $840057 d. \div 30487 = 27 d. 13 h. 18 m. 37 s.$

From the foregoing values the Sun's mean anomaly and the Moon's mean anomaly have been obtained as follows:—

SUN'S MEAN ANOMALY.

Sun's Mean Anomaly = Synodic month × 860 Long. of Perigee.

MEAN LONGITUDE.

29.53059161937

360

1771 83549716220 8859 177485811 Mean Lor

865-2422408026)10631·01298297820(29° 6′ 24′ ·28 7804 844816052

> 3326 1681669212 8287 1801672234

> > 88 9879996978 60

> > 233 92799818680 219 14584448156

14 78265870524 60

88 695922231440 73 04844816052

15 647474070920 14 609689632104

1 03778443881.60 7304844816502

> 30729995716580 29219379264208

1510616452872

Long. of Perigee.

10631 • 0129 829732

21000× 365-2422408026

21,000 years

365 242 2408026

7304 844 816052

Long. Perigee. 7670 087-0568546)10631-0129829732(0° 0′ 4″-99

60

637860-7789783920

60

382716467387035200 3068034 82274184

759129 851128512 690307 835116914

68822 0160115980 61360 6964548368

7461 3195567612

29° 6′ 24.″28 Mean Long. 0 0 4.99 Long. Perigee.

Sun's Mean Anomaly = 29 6 19 29 = Mean Long. - Long. Peri

(3)

MOON'S MEAN ANOMALY.

Moon's Mean Anomaly = (Synodic Month-Anomalistic Month) × 360.

Anomalistic month

 $(Synodic - Anomalistic) = \begin{array}{c} d. \\ 1.97599457797 \\ 360 \end{array}$

11 855967467820 59 2798373391

Anomalistic month=27.5545970414)711.35804806920(25° 48′ 58″.7198 551 091940828

> 160 2661072412 137 7729852070

22 4931220342 60

134 95873220520 110 2183881656

24 74034403960 22 04367763312

2 69666640648

16 179998438880 13 77729852070

2402699918180 2204867763812

1983321548680 1928821792898

> 544997557820 275545970414

2694515874060 2479913783726

2146021403340

With the values of the Sun's mean anomaly, and the Moon's mean anomaly thus obtained, the following tables have been calculated:—

- (1) For the present century. The new moon of March, 1844, being taken as the starting point, or terminus a quo of the series.
 - (2) For sixty centuries.

LONG. OF PERIGEE.

10631 · 0129 829732

21000× 365·2422408026

21,000 years

365 242 2408026 7304 844 816052

Tong. Perigee. $7670\,087\cdot0568546)10631\cdot0129829732(00\ 0'\ 4''\cdot99$

60

637860.7789783920

382716467387035200 3068034 82274184

759129 851128512 690307 835116914

68822 0160115980 61360 6964548368

7461 3195567612

6' 24."28 Mean Long. 0 0 4.99 Long. Perigee.

Sun's Mean Anomaly = 29 6 19 29 = Mean Long. - Long. Perigee.

0

MOON'S MEAN ANOMALY.

With the values of the Sun's mean anomaly, and the Moon's mean anomaly thus obtained, the following tables have been calculated:—

2146021408340

- (1) For the present century. The new moon of March, 1844, being taken as the starting point, or terminus a quo of the series.
 - (2) For sixty centuries.

xviii OLD STYLE.

| Year. | | New Mar stron, g. Gro | ch. Tim | e. | | n Nev Mar Civil ng. Je | rch. Time | · . | : Mean | Sun' Ano | s maly. | Mean | Moon a And | 's maly. |
|---|--------------------------------------|--------------------------------|--|---|---|--|--|--|---|--|--|--|--|---|
| | Days | h. | m. | s. | Days | h. | m. | s. | s. | 0 | , | s. | ٥ | , |
| 1800 1 2 3 4 4 5 6 6 7 8 9 1810 11 12 13 14 15 16 17 18 19 1820 21 22 23 24 25 26 27 28 29 1830 31 32 33 34 35 36 37 38 39 1840 41 42 48 44 45 46 47 48 49 1850 | 18 6 25 14 4 22 11 | 22 6 4 | 16 5 7 6 6 8 7 6 6 8 7 6 5 8 7 9 8 8 7 9 8 8 1 9 8 1 9 8 2 1 0 0 9 8 2 1 0 0 9 8 2 1 0 0 9 8 2 1 0 0 9 8 2 1 0 0 9 8 2 1 0 0 9 8 2 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 2 2 2 2 0 7 15 5 3 10 0 8 5 5 5 3 4 18 9 7 1 5 4 2 2 2 4 2 0 8 7 15 5 3 10 0 8 5 5 5 3 4 18 9 7 1 5 4 2 2 2 4 0 8 5 8 6 6 4 4 2 1 9 1 5 7 8 4 4 2 2 9 1 5 7 8 4 4 2 1 9 1 5 7 8 4 4 2 1 9 1 5 7 8 4 4 2 2 9 1 5 7 8 4 4 2 1 9 1 7 8 4 4 2 1 9 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 | 18 2 21 11 218 7 26 15 4 23 12 1 20 9 28 16 6 24 4 21 10 29 18 7 26 15 4 21 19 9 27 17 5 24 18 8 21 10 29 18 7 26 15 4 22 12 1 | $\begin{smallmatrix} 14 \\ 23 \\ 20 \\ 5 \\ 3 \\ 20 \\ 12 \\ 12 \\ 12 \\ 13 \\ 12 \\ 13 \\ 12 \\ 13 \\ 14 \\ 13 \\ 14 \\ 14 \\ 14 \\ 14 \\ 14$ | 37 58 57 58 57 59 58 58 59 58 58 59 58 58 58 58 58 58 58 58 58 58 | 2 5 2 42 0 0 87 15 5 8 10 5 2 8 4 18 5 9 7 4 4 2 2 2 4 0 8 8 6 6 4 4 1 1 9 9 7 8 4 4 1 2 2 9 1 5 2 7 4 5 2 2 4 0 8 8 6 6 4 4 2 1 1 9 1 5 7 8 4 4 2 2 9 1 5 2 7 8 4 4 1 5 2 9 1 5 7 8 4 4 5 9 1 5 7 8 4 4 5 9 1 5 7 8 4 4 5 9 1 5 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 8 7 | 223242323223222222222222222222222222222 | 28 12 10 20 21 21 21 21 21 21 21 21 21 21 | 18 29 50 7 29 45 0 23 35 14 17 32 45 46 48 44 40 21 28 31 31 31 31 31 31 31 31 31 31 | 4 2 1 0 0 11 9 7 7 5 3 2 1 1 1 1 0 9 8 6 4 4 4 2 0 0 0 1 1 9 7 6 5 3 2 1 1 1 1 0 9 8 7 6 4 8 1 0 1 1 9 8 8 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | $\begin{array}{c} 8 \\ 18 \\ 28 \\ 9 \\ 18 \\ 29 \\ 9 \\ 194 \\ 40 \\ 109 \\ 25 \\ 51 \\ 20 \\ 06 \\ 66 \\ 25 \\ 11 \\ 166 \\ 612 \\ 17 \\ 7 \\ 12 \\ 21 \\ 27 \\ 71 \\ 18 \\ 22 \\ 21 \\ 27 \\ 71 \\ 22 \\ 21 \\ 27 \\ 71 \\ 22 \\ 21 \\ 27 \\ 32 \\ 27 \\ 32 \\ 27 \\ 33 \\ 34 \\ 34 \\ 34 \\ 34 \\ 34 \\ 34 \\ 3$ | 18 6430 75543 19 7441 86 6440 86 820 57545 2 9 57451 19 546 340 158 463 147 852 9 47 851 19 547 |

| Year, | A | Maı stron | v Moorch. Tim | e. | | Mar Livil | w Moo reh. Time. erusa | | | Sun's Ano | maly. | Mean | Ioon'i Ano | |
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ХX

NEW STYLE.

| Year. | | Mare tron. | |). | | Mar ' Divil | ch. | | Me | | Sun's Anor | naly. | Mean | foon' Ano | s maly. |
|---|--|---|---|--|--|---|--|--|----|---------------------------------------|---|--|---|--------------|--|
| | Days | h | m. | 8. | Days | h. | m. | 8. | | 8 | ۰ | , | 8 | ٥ | , |
| 1800 1 2 8 4 5 6 7 8 9 1810 11 12 13 14 15 16 17 18 19 1820 21 22 23 24 25 26 27 28 38 39 1830 81 82 83 84 85 86 87 88 89 89 80 80 80 80 80 80 80 80 80 80 | 25 14 3 22 11 0 19 8 26 15 5 24 12 10 28 17 6 25 14 32 21 11 0 18 8 27 15 4 4 28 17 6 28 17 18 18 18 18 18 18 18 18 18 18 | 2 11 9 18 18 2 0 9 18 15 15 2 2 2 6 15 13 | 59 48 20 58 58 58 58 7 40 29 15 50 39 11 | 54 31 8 49 26 3 44 21 58 39 16 57 34 11 | 25 14 4 28 11 10 19 27 16 5 24 18 21 21 21 21 21 21 21 21 21 21 | 111 199 4 22 100 8 17 22 23 8 8 17 14 24 25 10 25 10 10 25 10 25 10 10 25 10 10 10 10 10 10 10 10 10 10 10 10 10 | 27 0 49 37 10 59 31 20 20 19 41 41 40 40 41 41 40 41 41 40 41 41 41 41 41 41 41 41 41 41 41 41 41 | 8 49 26 3 44 21 58 39 16 57 34 11 52 | | 2222212222222222222222222222222222222 | 28 12 10 98 16 24 13 21 10 01 18 26 15 4 22 12 11 98 16 24 16 21 21 21 21 21 21 21 21 21 21 21 21 21 | $\begin{array}{c} 13\\ 29\\ 44\\ 7\\ 22\\ 8\\ 0\\ 16\\ 8\\ 8\\ 4\\ 4\\ 2\\ 2\\ 4\\ 0\\ 15\\ 3\\ 4\\ 4\\ 0\\ 2\\ 4\\ 1\\ 9\\ 2\\ 4\\ 1\\ 0\\ 1\\ 2\\ 5\\ 1\\ 4\\ 1\\ 9\\ 2\\ 4\\ 1\\ 0\\ 1\\ 2\\ 5\\ 1\\ 4\\ 1\\ 9\\ 2\\ 4\\ 1\\ 0\\ 1\\ 2\\ 5\\ 1\\ 4\\ 1\\ 9\\ 2\\ 4\\ 1\\ 1\\ 2\\ 5\\ 1\\ 4\\ 1\\ 1\\ 2\\ 1\\ 2\\ 1\\ 1\\ 2\\ 1\\ 1\\ 2\\ 1\\ 1\\ 2\\ 1\\ 1\\ 2\\ 1\\ 1\\ 1\\ 2\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\ 1\\$ | 4 2000 10876532111997643201108664320 1198754310 11986542100 1098 | 22 | 18 64 63 018 64 19 7 55 119 56 44 12 8 66 22 25 7 45 219 46 34 10 8 46 22 10 7 56 22 54 7 56 21 10 10 10 10 10 10 10 10 10 10 10 10 10 |

| Year. | AA | New Mar tron. g. Gre | ch. Time | ·. | (| Mar Livil ! | | | Mean | un's Anor | aaly. | Mean | oon's Anor | |
|--|---|---|---|---------------------------------|--|--|--|--|---|--|--|--|---|---|
| | Days | h. | m. | s. | Days | h. | m. | 8. | 8 | 0 | , | 8 | 0 | |
| 1850 51 52 53 54 55 56 67 63 64 65 66 67 68 69 1870 71 72 73 74 75 76 77 78 81 82 83 84 85 86 89 1890 91 92 93 94 95 96 97 97 98 99 1900 97 98 99 1900 97 97 98 99 99 99 99 90 90 90 90 90 90 | 12 20 9 28 17 6 25 14 3 21 11 0 19 7 26 15 5 28 17 6 21 14 8 22 10 0 19 9 28 17 6 21 12 10 10 10 10 10 10 10 10 10 10 10 10 10 | 9 7 15 0 22 7 15 18 22 19 4 10 19 4 4 2 2 10 10 | 45 14 47 47 46 47 46 47 46 46 47 46 46 46 46 46 46 46 46 46 46 46 46 46 | 45 27 4 41 22 59 | 18 2 20 10 20 18 8 6 6 25 15 4 22 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 2 111 8 17 2 2 3 8 17 15 12 2 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | 44 83 66 54 15 16 16 17 18 18 18 18 18 18 18 18 18 18 | 18 50 81 8 45 27 4 41 22 59 | 212222222222222222222222222222222222222 | 28 12 20 20 29 17 16 16 16 21 21 21 21 21 21 21 21 21 21 21 21 21 | 12 85 50 6 29 44 7 22 88 16 82 16 82 10 | 86 55 81 11 10 97 65 82 20 00 10 87 76 48 82 11 11 11 10 97 55 83 11 11 10 87 66 11 11 11 11 11 11 11 11 11 11 11 11 | 100 200 200 200 200 200 200 200 200 200 | 144 500 200 200 200 200 200 200 200 200 200 |

FIRST MEAN NEW MOON WITH MEAN ANOMALIES OF THE SUN AND MOON, FOR SIXTY CENTURIES.

| Lunations. | Julian Years. | First New Moon. Days h. m. s. | Sun's Mean Anomaly. | Moon's Mean Anomaly. |
|---|--|--|------------------------|---|
| 1237 2174 3711 4948 6185 7422 8658 9895 11,182 12,369 13,606 14,848 16,080 17,316 18,558 19,790 21,027 22,264 23,501 24,738 25,974 27,211 28,448 29,685 30,922 32,159 38,896 34,682 35,869 37,106 38,848 39,580 40,817 42,054 43,290 44,527 45,764 47,001 48,238 49,475 50,711 51,948 58,183 59,580 60,606 61,843 63,080 64,817 65,554 66,791 68,080 69,264 70,501 71,738 72,975 74,212 | 100 200 800 400 500 600 700 800 900 1000 1100 1200 1800 1500 1600 1700 1800 1200 2200 2300 2400 2500 2600 2700 2800 2900 3000 3100 3200 3800 3400 3500 6000 4100 4200 4400 4400 4400 4400 4400 4 | 4 8 12 14 8 16 24 29 18 0 36 48 17 8 48 58 21 17 1 12 26 1 18 26 0 20 41 38 5 4 53 52 9 18 6 6 18 21 18 25 22 18 42 50 26 21 55 4 1 17 59 58 19 20 12 12 27 18 86 41 21 14 45 6 22 17 7 11 6 29 22 15 14 41 36 19 22 58 50 24 7 6 5 12 8 10 24 27 27 18 86 41 2 14 4 58 6 22 17 7 11 6 29 22 15 14 41 36 19 22 58 50 24 7 6 5 10 19 35 28 24 15 15 18 8 10 46 30 7 18 58 45 11 23 13 20 19 35 28 25 3 47 42 29 11 59 57 4 7 28 8 8 15 40 22 11 16 17 5 26 0 29 20 0 19 35 52 12 28 52 37 17 8 4 51 21 16 17 5 26 0 29 20 0 19 57 31 5 4 9 45 9 12 22 0 0 18 20 34 10 1 18 8 4 51 10 57 17 52 35 10 9 3 37 14 17 15 52 18 19 20 34 53 10 9 3 37 14 17 15 52 21 18 38 1 21 18 39 9 6 0 0 51 28 26 21 10 57 1 16 39 9 6 0 0 51 28 26 21 10 57 1 16 39 9 6 0 0 51 28 10 9 3 37 14 17 15 52 2 18 38 1 1 15 18 57 29 19 1 28 6 21 58 26 21 58 26 21 58 27 17 52 35 2 18 38 1 1 5 57 29 19 22 9 44 24 6 21 58 | 0 | 8 14 47 4 29 33 1 14 20 9 29 6 6 13 58 2 28 40 10 17 37 7 2 21 8 17 10 0 1 5 15 5 16 44 10 19 84 10 22 25 16 10 20 25 16 11 10 29 9 9 9 9 6 11 12 58 10 12 28 10 12 28 10 13 15 11 10 50 12 4 49 13 10 50 14 28 10 10 10 10 10 10 10 10 10 10 10 10 10 |

| No. | Mea | ın Lu | natio | ns. | Sun's M | ean A | nomaly. | Moon's M | ean A | nomaly |
|---|------|-------|-------|--------|---------|-------|---------|----------|-------|--------|
| | Days | h. | m. | 8. | s. | 0 | , | · s. | 0 | , |
| 1 | 29 | 12 | 44 | 3 | 0 | 29 | 6 | 0 | 25 | 49 |
| 1 2 3 4 5 6 7 8 9 | 59 | 1 | 28 | 6 9 | 1 | 28 | 13 | 1 | 21 | 38 |
| 3 | 88 | 14 | 12 | | 2 3 | 27 | 19 | 2 | 17 | 27 |
| 4 | 118 | 2 | 56 | 12 | 3 | 26 | 25 | 3 | 13 | 16 |
| 5 | 147 | 15 | 40 | 16 | 4 5 | 25 | 32 | 4 5 | 9 | 5 |
| 6 | 177 | 4 | 24 | 19 | 5 | 24 | 38 | 5 | 4 | 54 |
| 7 | 206 | 17 | 8 | 22 | . 6 | 23 | 44 | 6 | 0 | 43 |
| 8 | 236 | .5 | 52 | 25 | 7 | 22 | 51 | 6 | 26 | 32 |
| | 265 | 18 | 36 | 28 | 8 | 21 | 57 | 7 | 22 | 21 |
| 10 | 295 | 7 | 20 | 31 | 9 | 21 | 3 | 8 | 18 | 10 |
| 11 | 324 | 20 | 4 | 34 | 10 | 20 | 10 | 9 | 13 | 59 |
| 12 | 354 | 8 | 48 | 37 | 11 | 19 | 16 | 10 | 9 | 48 |
| 18 | 383 | 21 | 32 | 41 | 0 | 18 | 22 | 11 | 5 | 37 |
| 1/2 | 14 | 18 | 22 | 2 | 0 | 14 | 33 | 6 | 12 | 54 |

On the basis of the preceding Values and Tables the new moons for 3555 years, from B.C. 1622 to A.D. 1934 have been calculated, and also the full moons of all lunar eclipses from B.C. 1207 to A.D. 1934.

As a specimen of the calculation of the new moons, and of the full moons of lunar eclipses for a single year, the following for the year 1794 will show how the true moons have been obtained from the mean by simply twice equating for solar and lunar anomaly. The moon's mean anomaly has been used, and not the equated anomaly, as the error in using the mean anomaly is very small, and the saving of labour, in calculating such extensive tables, considerable. The eclipses in the margin are from Oppolzer's Canon, and were inserted in this way in the tables throughout, from B.C. 1207 to A.D. 1934, for purposes of comparison and verification. The full moons in the table are indicated by a small circle prefixed to their month dates.

THE FIRST SOLAR ECLIPSE IN EACH CENTURY, FOR 3,000 YEARS;*

From B.c. 1100 to A.D. 1900.

STATED IN JERUSALEM CIVIL TIME.

| B C. d. h. m. d. h. m. d. h. m. -20m. 1100 Jan. 25 0 50 Jan. 25 0 30 -20m. 1000 Mar. 29 14 8 Mar. 29 14 33 +25m. 900 May 2 0 5 May 2 2 29 +2h. 24m. 800 June 4 8 11 June 4 9 22 +1h. 11m. 600 Mar. 17 0 56 Mar. 17 2 38 +1h. 42m. 500 April. 19 11 0 April. 19 11 24 +24m. -1h.9m. 400 June 21 20 5 June 21 18 56 -1h.9m. -1h.9m. 200 Mar. 4 12 6 Mar. 4 11 56 -10m. -1h.9m. 100 May 6 23 39 May 6 22 15 -1h. 24m. 100 Feb. 27 22 0 Feb. 27 22 45 -1h. 24m. 200 April. 1 12 6 April. 1 11 27 -39m. |
|--|
| 1800 APRIL 12 2 53 APRIL 12 2 36 -17m. 1900 May 15 17 11 May 15 17 24 +18m. |

^{*} Accurately 3000-1=2099 years.

| Year and Month. | Mean New Moon. (O Full Ecl.) | Sun's Mean Anomaly. | Moon's Mean Anomaly. | First Equation. | Second Equation. | True New Moon. (O Full Ecl.) | Eclipses from Oppolzer's Canon. |
|--------------------|---|--|---|--|--|---|---|
| 1794 Jan | d. h. m. 20 6 6 50 4 1 12 18 19 34 20 8 18 18 21 2 18 9 46 16 22 80 16 11 14 31 5 36 14 28 58 13 12 42 13 1 26 11 14 10 11 2 54 | s. ° , 1 1 1 12 1 15 45 2 0 18 2 29 25 3 28 31 4 27 38 5 26 44 6 25 50 7 10 28 7 24 57 8 24 3 9 28 9 10 22 16 11 21 22 | s. ° ', 10 26 16 5 9 11 11 22 5 0 17 58 1 18 42 2 9 81 3 5 20 4 1 9 10 14 4 4 26 58 5 22 47 6 18 36 7 14 25 8 10 14 | ħ. m. +5 5 -3 44 +1 15 -2 47 -6 24 -8 57 -9 51 -8 44 +6 40 -5 42 -1 19 +3 22 +7 15 +9 29 | h. m. +2 14 +3 42 +4 12 +3 39 +2 12 +0 14 -1 48 -2 40 -3 24 -4 10 -3 54 -2 37 -0 38 | d. h. m. 20 14 9 4 0 32 19 0 31 20 9 43 18 18 17 18 3 1 16 12 53 16 0 42 31 9 36 14 14 52 13 7 13 13 0 54 11 18 48 11 11 45 | *20 18 57 O4 0 44 *19 0 23 *16 0 82 O31 9 51 *14 14 48 |

CORRESPONDENCE OF DATES IN THE TABLES WITH THOSE IN OPPOLZER'S "CANON."

As fairly illustrating the correspondence of the Tables in this volume with the eclipses in Oppolzer's Canon der Finsternisse, the following extract presents the first solar eclipse in each century, for 3,000 years, as given in Oppolzer's Canon, and the corresponding True New Moon of the Tables. As the latter are only twice equated, and calculated on somewhat different data from the new moons of Oppolzer's eclipses, they ought to differ from them; but the mean difference is found to be less than an hour. The accuracy of the Tables is thus sufficient for all ordinary historical and chronological purposes.

THE FIRST SOLAR ECLIPSE IN EACH CENTURY, FOR 3,000 YEARS;*

FROM B.C. 1100 TO A.D. 1900.

STATED IN JERUSALEM CIVIL TIME.

| Year. | Oppolzer's Canon, Sol. Ecl. | Tables, True New Moon. | Difference '. |
|---|---|---|---|
| B C. 1100 1000 900 800 700 600 500 400 800 400 500 600 700 800 900 1100 1200 1300 1400 1500 1500 1500 1500 1500 1500 15 | d. h. m. Jan. 25 0 50 Mar. 29 14 8 May 2 0 5 June 4 8 11 Feb. 11 14 15 Mar. 17 0 56 April 19 11 0 June 21 20 5 Jan. 29 22 51 Mar. 4 12 6 May 6 23 39 June 10 6 12 Feb. 27 22 0 April 1 12 6 May 5 16 35 Jan. 12 18 22 Feb. 15 11 54 Mar. 20 18 41 May 23 9 4 June 26 2 44 Mar. 4 3 43 April 7 11 11 May 11 4 35 Jan. 18 1 57 Feb. 21 10 42 Mar. 26 4 46 May 28 2 15 Jan. 6 7 27 Feb. 9 1 55 April 12 2 58 May 15 17 11 | d. h. m. Jan. 25 0 30 Mar. 29 14 38 May 2 2 29 June 4 9 22 Feb. 11 14 29 Mar. 17 2 38 April 19 11 24 June 21 18 56 Jan. 30 0 12 Mar. 6 22 15 June 10 4 89 Feb. 27 22 45 April 1 11 12 7 May 5 15 2 Jan. 12 18 57 Feb. 15 11 2 Mar. 20 17 20 May 28 7 46 June 26 8 1 Mar. 4 2 24 April 7 10 14 May 11 4 37 Jan. 18 0 55 Feb. 21 10 8 Mar. 26 4 40 May 28 2 12 Jan. 6 7 16 Feb. 9 1 52 April 12 2 36 May 15 17 24 | -20m. +25m. +2h. 24m. +1h. 11m. +14m. +1h. 42m. +24m1h.9m. +1h. 21m10m1h. 24m1h. 88m. +45m52m1h. 88m. +35m52m1h. 18m. +17m1h. 19m57m1h. 2m6m3m3m11m3m11m. |
| | | Mean differenc | e —10m. |

^{*} Accurately 3000-1=2999 years.

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FIRST EQUATION FOR THE TIMES OF NEW AND FULL MOON.

Galloway. Enc. Brit.

| | | | | | A | RGUN | EN? | r—IV | Ioon' | 's l | [EAN | An | OMA | T.Y. | | | | | |
|----------------------------|-------------|-----------------------------|----------------------------|---------|----------------------------|----------------------------|---------|----------------------------|----------------------------|-------------|----------------------------|----------------------------|-----------------|----------------------------|----------------------------|--------------|---------------------------|----------------------------|----------------------------|
| 0 | | Cs | | | Is | | | IIs | | | 111 | 3 | | IV ^s | 1 | | Vs — | | |
| 0 | h. 0 | m. | s. 0 | h. 4 | т. 34 | ş. 26 | h. 8 | m. 10 | s. 3 | h. 9 | m. 48 | <i>s.</i> 59 | <i>h</i> . 8 | m. 50 | <i>s.</i> 0 | <i>h</i> . 5 | m. 14 | s. 24 | 30 |
| 1 2 3 4 5 | | 9 18 28 87 47 | 28 56 24 52 19 | 5 | 42 51 59 7 16 | 54 18 38 54 4 | | 15 20 26 31 36 | 32 52 5 9 6 | | 49 50 50 50 50 | 42 14 35 45 44 | | 45 40 84 29 24 | 11 10 59 36 5 | 5 4 | 5 55 45 36 26 | 2 34 59 18 31 | 25 25 27 26 25 |
| 6 7 8 9 | 0 | 56 6 15 24 34 | 45 10 85 59 21 | | 24 32 40 48 55 | 10 12 9 1 48 | 8 | 40 45 50 54 58 | 53 32 2 24 36 | 9 | 50 50 49 48 47 | 33 10 36 51 55 | 8. 7 | 18 12 6 0 53 | 23 30 27 14 50 | 43 | 16 6 56 46 36 | 38 40 3 27 13 | 24 25 22 21 20 |
| 11 12 18 14 15 | 1 2 | 43 53 2 • 11 20 | 42 2 20 37 51 | 6 | 3 11 18 26 33 | 29 5 86 1 20 | 9 | 2 6 10 13 17 | 40 34 20 55 22 | | 46 45 48 42 40 | 48 29 59 18 26 | | 47 40 33 26 19 | 17 35 42 40 28 | 3 2 | 25 15 5 54 43 | 54 31 3 31 56 | 18 18 17 16 18 |
| 16 17 18 19 20 | 2 3 | 30 39 48 57 6 | 4 15 23 29 33 | 7 | 40 47 54 1 8 | 33 40 41 36 24 | | 20 23 26 29 32 | 38 46 43 30 8 | | 38 36 33 31 28 | 22 8 42 4 16 | 7 6 | 12 4 56 49 41 | 7 37 58 11 14 | 2 | 33 22 11 0 50 | 16 34 48 59 8 | 14 13 13 13 10 |
| 21 22 23 24 25 | | 15 24 33 42 51 | 34 33 28 21 10 | | 15 21 28 34 40 | 6 41 9 30 41 | | 34 36 39 40 42 | 36 53 0 57 44 | | 25 22 18 15 11 | 16 5 44 10 26 | 6 5 | 33 24 16 8 59 | 9 55 33 3 26 | 1 0 | 39 28 17 6 55 | 14 18 20 20 19 | 8 |
| 26 27 28 29 30 | 3 4 4 | 59 8 17 25 34 | 56 39 18 54 26 | 8 8 | 46 52 58 4 10 | 52 50 42 26 3 | 9 | 44 45 47 48 48 | 20 46 1 5 59 | 9 8 8 | 7 3 59 54 50 | 31 25 8 39 0 | 3 | 50 41 32 23 14 | 39 47 46 38 24 | 0 | 44 83 22 11 0 | 17 13 9 5 0 | 4 |
| 0 | | xI | | | + X | | | ı*x | | | vii. | | | Ťi | | | , + 1V | | - |

xxvii

SECOND EQUATION FOR THE TIME OF NEW AND FULL MOON.

| | | | | | | Arg | UME | NT- | -Sun | 's A | IEAN | An | OMA | LY. | | | | | |
|----------------------------|-------------|----------------------------|----------------------------|---------|----------------------------|----------------------------|------|----------------------------|----------------------------|---------|----------------------------|----------------------------|-----------------|----------------------------|----------------------------|---------|----------------------------|----------------------------|-----------------------------|
| 0 | ж. | 0 + | | | I + | | | 11 | • | | 111 | | | IV + | | | V + | | 0 |
| 0 | ћ. 0 | m. | s. 0 | h. 2 | nı. 8 | <i>s</i> . | h. 3 | m. 40 | s. 48 | h. 4 | т. 11 | s. 50 | <i>h</i> . З | m. 35 | <i>s.</i> 30 | л. 2 | т. З | s. 21 | 30 |
| 1 2 3 4 5 | | 4 9 18 18 22 | 30 1 31 1 30 | | 12 16 20 23 27 | 30 17 .8 45 25 | | 42 44 46 48 50 | 54 56 54 48 37 | | 11 11 11 10 10 | 41 28 10 48 20 | | 33 30 28 26 23 | 13 52 28 0 29 | 1 | 59 55 51 48 44 | 35 47 56 4 10 | 29 28 27 26 25 |
| 6 7 8 9 | | 26 81 85 40 44 | 59 28 55 23 49 | | 31 34 38 41 44 | 1 85 6 84 59 | 8 | 52 54 55 57 58 | 22 3 39 11 38 | | 9 9 8 7 6 | 49 13 32 47 58 | | 20 18 15 12 9 | 53 15 33 47 58 | | 40 36 32 28 24 | 14 17 17 16 14 | 24 23 22 21 20 |
| 11 12 18 14 15 | 0 | 49 58 58 2 6 | 15 89 8 25 46 | 2 3 | 48 51 54 58 1 | 20 38 53 5 13 | 4 | 0 1 2 8 4 | 1 20 33 48 48 | | 6 5 4 2 1 | 4 6 3 56 44 | 3 2 | 7 4 1 58 55 | 6 11 12 11 6 | 1 | 20 16 11 7 3 | 10 5 59 51 42 | 19 18, 17 16 15 |
| 16 17 18 19 20 | | 11 15 19 28 28 | 6 24 41 56 10 | | 4 7 10 18 16 | 18 19 16 10 0 | | 5 6 7 8 9 | 48 44 35 21 8 | 4 8 | 0 59 57 56 54 | 28* 8 44 15 42 | | 51 48 45 42 38 | 58 47 33 16 57 | 0 | 59 55 51 46 42 | 32 22 10 57 43 | 14 13 12 11 10 |
| 21 22 28 24 25 | | 32 36 40 44 48 | 22 32 41 47 51 | | 18 21 24 26 29 | 46 29 8 43 14 | , | 9 10 10 11 11 | 41 14 42 5 24 | | 53 51 49 47 45 | 5 24 38 49 56 | | 35 32 28 25 21 | 35 10 42 12 40 | | 38 34 29 25 21 | 29 14 59 43 27 | 9 8 7 6 5 |
| 26 27 28 29 80 | 1 2 2 | 52 56 0 4 8 | 53 53 51 46 89 | 8 | 31 34 36 38 40 | 40 3 22 37 48 | 4 | 11 11 11 11 11 | 39 48 53 54 50 | 3 | 48 41 89 87 85 | 58 57 52 43 30 | 2 | 18 14 10 7 3 | 5 27 47 5 21 | 0 | 17 12 8 4 0 | 9 52 35 18 0 | 4 3 2 1 0 |
| 0 | | xı | | | x | | | īx | | | vII | | | vii | | - | vi | | • |

^{*} Printed 3-0-28 in Encyclop. Brit.

To find the mean and true new moons for past or future centuries from those of the present century given in the foregoing tables, it is only necessary to apply the century corrections, and take out the equations, as shown in the following calculation of the mean and true moons of March. 1744:—

| • | Mean New Moon. | Sun's Anomaly. | Moon's Anomaly | | |
|--|--|-------------------|--------------------|--|--|
| | d hms | g ° ' | 8 ° / | | |
| March, 1844 100 Years | 7 6 1 39 4 8 12 14 | 2 16 32 0 3 20 | 4 12 22 8 14 47 | | |
| 1st Equation 2nd Equation True New Moo Mar., 1744 | 2. 21. 49. 25 + 8 38 + 4 3 3. 10. 30. 25. | 2 13 12 | 7 27 83 | | |

To find the subsequent mean and true new moons for any particular year from those of the initial month of March, add the quantities given in the appropriate Table (Table of 13 lunations) to those of March, and take out the equations for the sun's and moon's anomaly. Example, to find the mean and true new moons for April, 1744:—

| 1 | Mean New Moon. | | Sun's Anomaly. | | Moon's Anomaly. | | | |
|--|----------------------|-----------------------|----------------|----------------|-----------------|----|----------|----|
| Mar., 1744 1 Lunation | d b 2 2: 29 1: | 1 49 | 25 | 2 13 1 0 29 | 12 | | 27 25 | |
| April, 1st Equation 2nd Equation True New Moon April, 1744 | + • | 0. 33. 9 50 4 5 | | 3. 12. 1 | 18. | 8. | 23. | 24 |

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| (| OCF. | 1888888888888888888888888888888888888 |
| | Sept. | 1000 4 000 0 0 0 1 1 2 1 2 1 2 2 2 2 2 2 2 2 2 |
| | Aug. | 12 0 0 4 2 0 0 0 0 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2 |
| | July | 2888888888888888888888888888888888888 |
| - | JUNE | 10004700100001110147611000222222222222222222222222222222222 |
| - | Max | 12882888888888888888888888888888888888 |
| | APRIL | 1 2 2 2 4 5 5 7 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 |
| | MAR. | 1228428282828282828282828282828282828282 |
| | FEB. | 12284780000001121814451218282282282828828828828828828828828828 |
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| Aug. | 128.47.00 × 8 0 0 11 2 3 1 4 1 1 1 1 1 1 2 1 2 2 8 2 8 2 8 2 8 2 8 2 |
| July | 10004000000000000000000000000000000000 |
| JUNE | 2888888888888888888888888888888888888 |
| MAY | 2888888888888888888888888888888888888 |
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| JUNE | 12844800 11 12845 11 128 22 22 22 22 22 22 22 22 22 22 22 22 2 |
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| July | 1.0004000011312475575000113000001131475575000000000000000000000000000000000 |
| JUNE | 12224760001121241551222222222222222222222222222 |
| Max | 12224720201121244755722222222222222222222222222222 |
| APRIL | 88888888888888888888888888888888888888 |
| MAR. | 1888888888888888888888888888888888888 |
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| Aug. | TSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS |
| July | 1988年800年1225123512351235123512351235123512351235 |
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| MAY | 120040000011111111111111111111111111111 |
| APRIL | 10004000000000000000000000000000000000 |
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| Aug. | 12824760001122242322222222222222222222222222222 |
| July | 12882888888888888888888888888888888888 |
| JUNE | 1.228475000000000000000000000000000000000000 |
| Max | 122847662122244551786222222222222222222222222222222222222 |
| APRIL | 1288478788888888888888888888888888888888 |
| MAR. | 12882222222222222222222222222222222222 |
| FEB. | 10004000011100445018008288888888888888888888888888888888 |
| JAN. | 1000470070001111000111000111100011111111 |
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| Dec. | 28.084.08.08.08.08.08.08.08.08.08.08.08.08.08. |
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| Nov. | 88888888888888888888888888888888888888 |
| Ocr. | 1288 2888 2888 2888 2888 2888 2888 2888 |
| SEPT. | 2004年0000000000000000000000000000000000 |
| Aug. | 12224720 201111111111111111111111111111111111 |
| July | 0888888888888888888888888888888888888 |
| JUNE | 1222470000112121413212222222222222222222222222 |
| MAY | 1982 288 28 28 28 28 28 28 28 28 28 28 28 |
| APRIL | 88888888888888888888888888888888888888 |
| MAR. | 128 28 28 28 28 28 28 28 28 28 28 28 28 2 |
| FEB. | 28 28 28 28 28 28 28 28 28 28 28 28 28 2 |
| JAN. | 0.25 \$4 \$7 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 \$6 |

| Dec. | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |
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| Nov. | 198847000001133347517860828828888888888888888888888888888888 |
| Ocr. | 1228450c0001121214121212823233232323332333323333333333 |
| Sept. | 12224222222222222222222222222222222222 |
| Aug. | 128847800 112121413 12122222222222222222222222222 |
| July | 1 2 2 2 4 7 2 0 2 1 1 1 1 1 1 1 1 1 1 2 2 2 2 2 2 2 |
| JUNE | 2888888888888888888888888888888888888 |
| May | 0 × 4 × 0 0 × 0 0 1 1 2 1 2 1 2 1 2 2 2 2 2 2 2 2 2 2 |
| APRIL | 2888888888888888888888888888888888888 |
| MAR. | |
| Feb. | SSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSSS |
| JAN, | 12888888888888888888888888888888888888 |

BISSEXTILE YEAR.—DOMINICAL LETTERS. É. D.

| Dec. | 128 28 28 28 28 28 28 28 28 28 28 28 28 2 |
|-------|--|
| Nov. | 08888888888888888888888888888888888888 |
| Ocr. | 12888888888888888888888888888888888888 |
| SEPT. | 120040000011111111111111111111111111111 |
| Ала. | |
| July | 1288478000011212448517812828282828888888888888888888888888 |
| ЈОИВ | 120040000011222121222222222222222222222 |
| Max | |
| APRIL | 10004000000000000000000000000000000000 |
| Man. | 1988 288 288 288 288 288 288 288 288 288 |
| FeB. | 12004700000112844557888888888888888888888888888888888 |
| JAN. | 1488450000000000000000000000000000000000 |
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BISSEXTILE YEAR.—DOMINICAL LETTERS. G. F.

| [x] | 2888888888888888888888888888888888888 |
|-------|---|
| Nov. | + 8 ° × × ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° ° |
| Ост. | 128645678688888888888888888888888888888888 |
| Sept. | 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H H R 0 M H H M R 0 M H H M R 0 M H M M M M M M M M M M M M M M M M M |
| Aug. | 128.88.88.88.88.88.88.88.88.88.88.88.88.8 |
| July | 2888888888888888888888888888888888888 |
| JUNE | 82828282828282828282828882888888888888 |
| Max | 100044007000001111111111111111111111111 |
| APRIL | 89888888888888888888888888888888888888 |
| MAR. | 1 0 0 0 4 1 0 0 0 0 0 0 1 1 2 1 2 1 2 2 2 2 2 2 2 |
| FEB. | 1 2 2 2 4 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |
| JAN. | 1 2 2 2 4 7 2 0 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |
| 1 | |

BISSEXTILE YEAR,—DOMINICAL LETTERS. B.A.

| DEC. | 1 2 2 2 4 7 0 0 0 1 1 1 1 1 1 1 1 1 0 0 0 0 0 2 2 2 2 |
|--------|--|
| Nov. | 128847878888847547586888888888888888888888 |
| Ocr. | 1222472622222222222222222222222222222222 |
| SEPT. | 128842888888888888888888888888888888888 |
| Aug. | 128282828282828282828282828282828282828 |
| July | 2888888888888888888888888888888888888 |
| JUNE | 1284760000112844551786222222222222222222222222222222222222 |
| MAY | 100047000011361478278828888888888888888888888888888888 |
| APRIL. | 20084700001138445518699898888888888888888888888888888888 |
| MAR. | 1238473692388888888888888888888888888888888888 |
| FEB | 12384738888888888888888888888888888888888 |
| JAN. | 20004400000000000000000000000000000000 |
| | |

| DEC. | 1288 288 288 288 288 288 288 288 288 288 |
|---------|---|
| Nov. | 10004000000000000000000000000000000000 |
| Ocr. | 2888888888888888888888888888888888888 |
| SEPT. | 1 0 0 0 4 0 0 0 0 0 1 1 2 1 2 2 2 2 2 2 2 2 2 2 2 |
| Aug. | 1.00 20 4 70 50 70 20 20 20 20 20 20 20 20 20 20 20 20 20 |
| July | 1.228.426.02 11 21 21 21 21 22 23 23 23 23 23 23 23 23 23 23 23 23 |
| JUNE | 18888888888888888888888888888888888888 |
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| A PRIT. | 2888 288 288 288 288 288 288 288 288 28 |
| 24.74 | 1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 |
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| 1 | |

BISSEXTILE YEAR.—DOMINICAL LETTERS. F.E.

| | THE CONTRACTOR OF THE CONTRACT |
|-------|--|
| DEC. | HERET SON HERET |
| | A STATE OF THE STA |
| Nov. | 1000440900011121844531281282838382888 |
| , | PHSYNSTERSSPHESSNSHESHNSSHESHNSSHEN |
| Ocr. | 128828282828282828282828282828282828282 |
| SEPT. | TKOKHTATKOSHTATKOSHTATKOSHTATK |
| SEI | 12847678888888888888888888888888888888888 |
| Aug. | o & h h h d d k o & h h d d l k o & h h d d l k o & h h d d l k o & h h d d l k o & h h d d l k o & h h d d l k o & h h d d l k o & h h d d l k o & h h d d l k o & h d d l k o & h d d l k o & h d d l k o & h d d l k o & h d d l k o & h d d l k o & h d l k o |
| Ā | 1000400F0000112044551200120222222222222222222222 |
| July | Taros hizazkos hizazkos hizazkos hizaz |
| J. | 10004000001138415811888888888888888888888888888888 |
| JUNE | KO STININOSTININ |
| | 122847561138475617868288488888888888888888888888888888888 |
| MAY | THE SOUND THE STANDARD STANDAR |
| | 112284738878888788888888888888888888888888 |
| APRIL | 12888888888888888888888888888888888888 |
| ٠ | Koghtatagogatadages Koghtatagogatadages |
| MAR. | 128828282828282828282828282828282828282 |
| FEB. | #PATROSHPATROSHPATROSHPATROSHPATROSHPATROSH |
| 드 | 28 28 28 28 28 28 28 28 28 28 28 28 28 2 |
| JAN. | TATE OF THE STATE |
| | 128888888888888888888888888888888888888 |

DOMINICAL LETTER TABLES.

The Dominical letter of each year is stated in the Tables of quinoxes and New Moons. To find the day of the week certain from these the Dominical letter for the year, and in the ominical letter Tables, under that letter, the required day of ne week will be found.

EXAMPLE.—On what day of the week did April 5, the day of he vernal equinox and also of the new moon, fall, in B.C. 1622? In the Tables of Equinoxes and New Moons the Dominical letter or B.C. 1622 is G. Under the letter G in the Dominical Letter lables April 5 is Thursday.

The Dominical letters can be employed as a test of the correctness of the tables, care being taken when B.C. and A.D. dates are compared to subtract one year.

Example: 2,300 years end one day of the week lower than the day on which they begin.

| | §в.с. 1622. | Dom. | letter | G. | Vernal | Eq. | Ap. | 5. | Thursday. |
|-------------|-------------------------|------|--------|-----|--------|-----|------|------|------------|
| 2,300 years | (A.D. 679. | " | " | B. | ,, | 17 | Mar. | 18. | Friday. |
| | (в.с. 1443. | | | G. | " | ,, | Ap. | 8. | Tuesday. |
| " | A.D. 858. | 11 | " | в. | | " | Mar. | 16. | Wednesday. |
| | | ٠, | " | | 27 | | Αp. | 2. | Tuesday. |
| | §в.с. 1336. | 17 | " | F. | " | " | Mar. | | Wednesday. |
| 11 | (A.D. 965. | " | " | Α. | 77 | " | | | Thursday. |
| | ў в.с. 1143. | : 7 | " | C. | 77 | " | Ap. | 1. | - |
| " | (A.D. 1158. | 17 | 27 | E. | " | ٠, | Mar | | Friday. |
| | CRC 772 | " | ,, | A. | 27 | 1: | Mar. | 29. | Wednesday. |
| " | ${B.c. 772.}$ | | | C. | " | ٠, | Mar. | 11. | Thursday. |
| | | 17 | 11 | G.F | | | Mar | 26. | Tuesday. |
| | § B.C. 457. | 17 | ;, | | | " | Mar | | Wednesday. |
| " | (A.D. 1844. | 27 | " | B.A | ٠, ,, | 27 | | | Tuesday. |
| | (вс. 367. | ,, | 11 | F. | 27 | " | Mar | | Wednesday. |
| " | l _{A.D.} 1934. | " | 17 | A. | " | " | Mar | . 8. | wednesday. |
| | | | | | | | | | |

VERIFICATION OF THE TABLES.

In the following Table, the 33 years Equinox cycle is employed to verify the vernal Equinoxes in this volume in a series of dates beginning B.C. 1622, and extending to A.D. 1910.

EXPLANATION OF THE CYCLE.

The Julian year of 3654 days exceeds the Tropical year by 11 minutes 12 seconds. This fractional excess grows to 6 hours 9 minutes in 33 years. Instead of intercalating in the Calendar 1 day every 4 years, and 8 days in 32 years, it is more correct therefore to shift the 8th intercalation from the 32nd to the 33rd year. This is to drop the six hours' error of the Julian reckoning in that period. The error of the 33 years Equinox cycle is less than 9 minutes.

The regularity of the nearly 9 minutes differences in the Equinoxes (at intervals of 33 years) is conspicuous throughout the following Table. The number of days elapsed from the initial date of the Table is stated, as the accuracy of the Equinox cycle seems to warrant it, and the statement may prove serviceable in chronological calculations.

xlv The 33 Years Equinox Cycle.

| No. B.C. | Month. | d. h. m. | Days. | No. | A.D. | Month. | d. h. m. | Days. |
|---|--|--|--|--|--|---------------------------------------|--|----------------------------------|
| 26 77 728 66 66 83 84 85 84 85 84 84 84 84 84 84 84 84 84 84 84 84 84 | """""""""""""""""""""""""""""""""""""" | 5 5 23 5 5 23 4 5 14 4 4 5 6 7 3 4 4 28 3 4 4 28 3 4 4 28 3 4 4 28 3 1 2 2 4 3 56 1 1 3 21 2 2 3 3 30 1 1 2 2 55 3 1 2 2 29 3 1 2 2 20 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | 458,014 470,067 482,120 494,175 506,226 78 580,335 554,435 554,435 2 566,495 3 578,54 | 82 83 84 85 86 87 89 90 91 91 92 94 95 95 95 95 96 97 97 97 97 97 97 97 97 97 97 97 97 97 | 1448 1481 1514 1547 1580 1618 1679 1712 1743 1778 1811 6 1843 | n n n n n n n n n n n n n n n n n n n | 22 22 16 22 22 7 22 21 59 21 21 50 21 21 41 21 21 32 21 21 24 20 21 15 20 20 57 20 20 49 19 20 40 19 20 31 19 20 23 19 20 14 18 20 5 18 19 56 18 19 48 18 19 56 18 19 48 18 19 89 17 19 30 17 19 21 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 19 18 17 10 18 45 16 18 47 14 17 28 14 17 19 13 17 11 18 17 2 13 16 58 13 16 44 12 16 10 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 48 11 15 52 11 15 53 11 15 58 11 15 58 | 1,258,51 1,265,56 1,277,61 |

USE OF THE TABLES.

1. The primary use of the Tables is to fix particular dates. Example:—What was the date of the new moon nearest to the vernal equinox in B.C. 457, the year in which, according to Sir Isaac Newton's calculation, Ezra went up from Babylon to Jerusalem? The Tables show that the vernal equinox in B.C. 457 fell on March 26, and that the nearest new moon was that of March 25 d. 8 h. 45 m, Jerusalem Civil Time; and that, therefore, the Phasis, or first appearance of the new moon coincided with the date of the equinox.

As the Tables contain more than 100,000 solar and lunar dates, they afford the means of ascertaining or verifying a very large number of periods connected with sacred and civil chronology.

The solar and lunar dates in the Tables are the following:—3,555 vernal equinoxes; 43,969 mean new moons; 43,969 true new moons (together 87,938 new moons); 4,862 mean full moons; 4,862 true full moons (together 9,724 full moons); or 101,217 solar and lunar dates.

In ascertaining or verifying historic dates, eclipses have a special value. The Tables contain the dates of all lunar eclipses from April 22, B.C. 1207, to July 26, A.D. 1934. No separate statement of solar eclipses is given, but as these always exactly coincide with true new moons, their dates, when otherwise ascertained, may be confirmed by the Tables. The new and full moons of the Tables being stated in Jerusalem Civil Time, allowance must be made for this in comparing them with eclipses stated in Greenwich, or other

¹ An. J. P. 4,257. "Observations on the Prophecies of Daniel," p. 143.

local time, or in time as reckoned from noon. The following are some of the principal centres at which eclipses have been accurately observed, with the corrections which must be applied to the Tables in comparing other local time with that of Jerusalem.

| | | | L | ong. | Diff. of from Jeru h. | |
|----------------|------|---|-------------|---------------|-----------------------|----|
| London-Green | wich | | 0° | 0′ | -2 | 21 |
| Paris | | | 2° | 24' E | -2 | 12 |
| Rome | | | 12° | 30′E | -1 | 31 |
| Athens | | | 23° | 44' E | -0 | 46 |
| Constantinople | | | 29° | 0' E | -0 | 25 |
| Alexandria . | | • | 29° | 52' E | -0 | 22 |
| Babylon . | | | 44° | 3 3′ E | +0 | 37 |
| Canton | | | 113° | 20' E | +5 | 12 |
| Pekin | | | 116° | 20' E | +5 | 24 |

The following nineteen lunar eclipses recorded by Ptolemy establish the chronology of Babylonian, Persian, Grecian and Roman rulers for nine centuries. The names and periods of kings in Ptolemy's Canon extend from Nabonassar, B.C. 747, to Antoninus, A.D. 138. "The astronomic and the historic cannot be separated, and they must both stand or fall together. The astronomic can be rigidly verified, and the truth of the historic is a legitimate deduction."

xlviii

LUNAR ECLIPSES RECORDED BY PTOLEMY.

| I. 721 27 28 Mardocempadi, 1 Thoth 29 9.00 from noon Mar. 19 21 25 Mar. 19 22 10 + 0 II. 720 28 " 2 | | B, C, | Year of Nabo- nassar. | Reign. | Egyptian Month. | Hour. | Date of Eclipse by Oppolzer. | Date in Tables. | Differences. |
|--|--------|-------|-----------------------------|------------------------|-----------------|----------------|---------------------------------|-----------------|--------------------------|
| f. 720 28 " 8 12 " 9 1 720 28 " 2 Phamenoth 15 8.30 " 8 28 51 " 9 1 621 127 Nabopolassar, 5 Athyr 27 17.50 " April 22 4 50 April 22 6 Bept 1 18 1 7uly 16 28 24 50 April 22 6 562 246 Darii, 20 Epiphi 28 11.86 " Nov. 19 28 45 Nov. 20 1 | | 1 62 | ' | Ward commodi 1 | Thoth 99 | 9.50 from noon | d. h. 19 21 | d. Mar. 19 | h. m. + 0 45 |
| (52) 28 " 2 Pharmenoth 15 8.30 " " " " " " April 22 4 59 April 22 4 59 April 22 4 59 April 22 4 59 April 22 5 5 6 April 22 6 6 A | II. | 720 | | maruocempani, 1 | 18 | 12 " | 8 23 | | + 1 23 |
| 621 127 Nabopolassar, 5 Athyr 27 17.50 " April 22 4 59 April 22 4 59 April 22 6 528 225 Cambysis, 7 Phamenoth 17 11 " July 16 28 21 July 17 1 562 246 Darii, 20 Epiphi 28 11.86 " Nov. 19 28 45 Nov. 20 1 882 246 Phanostratus Trobi 3 11.80 " April 25 22 16 April 25 22 10 2 | III. | | | · 63 | Phamenoth 15 | 8.30 " | 1 19 | | -1 13 |
| 523 225 Cambysis, 7 Phamenoth 17 11 " " " " " " " " " " " " " " " " " " " | IV. | _ | | Nabopolassar, 5 | Athyr 27 | 17.50 " " | 22 | 52 6 | + 1 48 |
| 502 246 Darii, 20 Epiphi 28 11.86 " " Nov. 19 28 45 Nov. 20 1 491 257 " 31 Tybi 3 11.80 " April 25 22 16 April 25 22 16 April 25 22 16 April 25 21 4 April 25 22 16 April 25 21 1.80 " April 25 22 1.80 | , V | 523 | | Cambysis, 7 | Phamenoth 17 | 11 " " | 16 23 | 17 1 | + 1 59 |
| 491 257 31 Tybi 3 11.30 n April 25 22 16 April 25 22 16 April 25 21 491 25 17 6 Dec. 28 7 26 Dec. 28 7 26 Dec. 28 6 27 6 Dec. 28 7 26 Dec. 28 6 9 8 8 7 20 Dec. 28 7 26 Dec. 28 6 9 8 9 6 7 10 9 9 10 28 7 20 Dec. 12 22 25 Dec. 12 20 10 11 20 10 11 20 10 20 11 20 10 20 10 20 | VI | 505 | | Darii, 20 | Epiphi 28 | 11.36 " " | 19 23 | 20 1 | + 2 2 |
| 889 966 Phanostratus Thoth 26 19.20 " Dec. 28 7 26 Dec. 28 6 882 866 " Phamenoth 24 96 " June 18 20 52 June 18 22 882 867 Evander Thoth 16 11.0 " Dec. 12 22 25 June 18 22 201 548 " II, 55 Mesorē 16 7.0 " Sept. 22 19 28 Sept. 22 19 28 Sept. 22 19 28 Sept. 22 19 20 0 0 0 0 12 20 12 20 10 | VII | 491 | | . 31 | Tybi 3 | 11.30 " " | 25 25 | 25 21 | - 0 29 |
| 882 866 " Phamenoth 24 96 " June 18 20 52 June 18 22 23 June 18 22 25 June 18 20 52 June 18 22 25 June 18 22 20 12 20 12 22 20 12 20 20 20 20 20 20 20 20 20 20 20 20 20 <t< td=""><td>VIII.</td><td>383</td><td></td><td>Phanostratus </td><td>Thoth 26</td><td>19.20 " "</td><td>23 7</td><td>23 6</td><td>-14</td></t<> | VIII. | 383 | | Phanostratus | Thoth 26 | 19.20 " " | 23 7 | 23 6 | -14 |
| 882 367 Evander Thoth 16 11.0 " " " Dec. 12 22 25 Dec. 12 20 20 201 547 Calippic Per. H., 54 Mesoré 16 7.0 " Sept. 22 19 28 Sept. 22 19 28 200 548 " II., 55 Mesoré 5 14.15 " Sept. 12 249 Sept. 22 20 174 574 Philometor, 7 Phamenoth 27 14.20 " May 1 2 49 Sept. 12 2 141 607 Calippic Per. III., 37 Tybi2 10.10 " Jan. 27 22 2 Jan. 27 20 125 872 Hadrian, 9 Pachon 17 824 " April 5 21 18 April 5 29 29 3 184 882 " 17 Paúni 29 11.15 " April 5 29 3 3 184 882 " 19 Chœac 2 11.0 " Abril 5 29 22 20 29 29 <td>X.</td> <td>385</td> <td>998</td> <td>•</td> <td>Phamenoth 24</td> <td>9.6</td> <td>18 20</td> <td>18 22</td> <td>+ 1 39</td> | X. | 385 | 998 | • | Phamenoth 24 | 9.6 | 18 20 | 18 22 | + 1 39 |
| 201 547 Calippic Per. II., 54 Mesore 16 7.0 , , , , , , , , , , , , , , , , , , , | × | 385 | 367 | Evander | Thoth 16 | 11.0 " " | 12 22 | 15 20 20 | -134 |
| 200 548 " II, 55 Mecheir 9 13.20 " Mar. 20 1 28 Mar. 20 0 200 548 " " II, 55 Mesorē 5 14.15 " Sept. 12 2 49 Sept. 12 2 174 574 Philometor, 7 Phamenoth 27 14.20 " May 1 2 5 May 1 0 4.1 607 Calippic Per. III., 37 Tybi 2 10.10 " Jan. 27 22 22 Jan. 27 22 2 4.5 872 Hadrian, 9 Pachon I7 8.24 " April 5 21 18 April 5 20 3 134 882 " 17 Paūni 20 11.15 " May 6 23 28 May 7 0 184 882 " 19 Chœac 2 11.0 " Oct. 20 23 23 Oct. 20 23 3 | XI. | 201 | 547 | Calippic Per. II., 54 | Mesorē 16 | 4 " 0.7 | 22 19 | 55 50 | + 1 17 |
| 200 548 " " II., 55 Mesorē 5 14.15 " " Sept. 12 2 49 Sept. 12 2 2 174 Sept. 12 2 49 Sept. 12 2 2 174 Sept. 12 2 49 Sept. 12 2 2 174 Sept. 12 2 2 174 Sept. 12 2 2 175 Sept. 12 2 | XII. | 200 | 248 | " II., 55 | Mecheir 9 | 13.20 " " | 20 1 | Mar. 20 0 | - 0 49 |
| 174 574 Philometor, 7 Phamenoth 27 14.20 . " May 1 2 5 May 1 0 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | XIII. | 200 | 248 | " " II., 55 | Mesorē 5 | 14.15 , , , | 12 2 | Sept. 12 2 | $\frac{1}{1} - 0 = 24$ |
| 141 667 Calippic Per. III., 37 Tybi 2 10.10 , | XIV. | 174 | 574 | Philometor, 7 | Phamenoth 27 | 14.20 , , | 1 2 | May 1 0 | -1 34 |
| 4.D. 872 Hadrian, 9 Pachon 17 8.24 . April 5 21 18 April 5 20 23 23 May 7 0 0 23 23 24 | XV. | 141 | 209 | Calippic Per. III., 37 | Tybi 2 | 10.10 | 27 22 | Jan. 27 20 | - 1 39 |
| 125 872 Hadrian, 9 Pachon 17 8.24 . April 5 21 18 April 5 20 18 April 5 20 18 April 5 20 18 April 5 20 23 28 May 7 0 134 882 * 19 Chœac 2 11.0 . 0 ct. 20 23 22 0 ct. 20 23 136 683 * 29 Pharmuthi 19 16.0 . . Mar. 6 4 4 Mar. 6 3 | | 4.D. | Windya sa | | | - Logical | | | abelijeri M e |
| 138 880 n 17 Pauni 20 11.15 . May 6 23 23 May 134 882 n 19 Chœac 2 11.0 . Oct. 20 23 22 Oct. 2 136 683 n 29 Pharmuthi 19 16.0 . . Mar. 6 4 4 Mar. | XVI. | 125 | 872 | Hadrian, 9 | Pachon 17 | 8.24 | 5 21 | April 5 20 | - 0 % |
| 134 882 , 19 Chœac 2 11.0 . Oct. 20 23 22 Oct. 2 136 883 , 29 Pharmuthi 19 16.0 . Mar. 6 4 4 Mar. | XVII. | 38 | 88 | n 17 | Patini 20 | 11.15 | 9 | 0 | \$ 0 + |
| 136 883 , 20 Pharmuthi 19 16.0 Mar. 6 4 4 Mar. | XVIII. | 134 | 88 | . 19 | Chœac 2 | 11.0 | હ | | + 0 25 |
| ֡֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜֜ | XIX. | 138 | 3 2 | 8 | Pharmuthi 19 | 16.0 | | | · - |

ANCIENT CHINESE ECLIPSES.

The following thirty-six solar eclipses have a special value as verifying ancient Chinese history. They are taken from the Chun Tsiu, a history or chronicle of the kingdom of Lu, from B.C. 722 to B.C. 481, written by the celebrated philosopher Confucius. With the exception of four, all these eclipses have been verified. "That some error exists in these four is admitted by the Chinese themselves, but they attribute it to the transcribers, and not to Confucius. As the hour and quantity are not expressed they are less useful to the astronomer, but they are of immense value in authenticating the ancient Chinese history and determining its chronology." We have taken the dates of these eclipses from Lindsay's "Chrono-Astrolabe." The correspondence of these dates with new moons in the Tables is interesting, and confirms both the eclipses and the Tables.

¹ J. B. Lindsay. "Chrono-Astrolabe," p. 98.

ANCIENT CHINESE ECLIPSES, FROM THE CHUN TSIU, OF CONFUCIUS.

| No. | | Date B.C. | Date indicated. B.C. | New Moon. Tables. Jerusalem Civil Time. | on. 7 | Tim. | |
|-----|---|--|-------------------------|--|----------|------|------|
| 7 | " In the year Sin-Yiu (the 58th of the cycle of 60) the 3rd of the Prince Yin Kung, in the season of spring, the 2nd moon, the day Ki-szi (being the 6th of the cycle of 60 days) the ann was selined." | 720. | Feb. 22 | d. h. m. Feb. 22 1 43 | d. 22 | h. n | 5.03 |
| C2 | "In the year of the cycle Jin-Shin (the 9th) being the 3rd year of the Prince Hwan Kung, in autumn, the 7th moon, the day Jin-chin (29th) at new moon, the suffered a total eclipse." | 709. | 709. July 17 | July . 17 | 17 | 8 22 | 81 |
| 63 | "In the 17th year of Hwan Kung being ping-seuh (23rd of cycle) winter, the 10th moon, at new moon, the sun had an eckipse." | 695. | Oct, 10 | Oct 10 10 35 | 9 | 0 | 12 I |
| 4 | "In the year Yih-szi (42nd of the cycle) being the 18th of Chwang Kung, spring 676. April 15 season, 3rd moon, the sun was eclipsed." | 676. | April 15 | April, 15 10 9 | 15 1 | 0 | 5 |
| ro | "In the year Jin-tszi (49th of the cycle). Esth year of Chwang Kung, beginning of the 6th moon, on the day Sin-wi (8th of the cycle of days) the sun had an eclipse." | tegenacher einer J. Brattierigkeiter - | 669. May 27 | May . 27 | 27 | သ | 1- |
| 9 | "In the year Kwei-chau (50th of cycle), the 26th of Chwang Kung, winter, 12th moon, the day Kwei-hai (50th of cycle of days), the sun was eclipsed." | 4 | 6% Nov. 10 | Nov 10 6 11 | 10 | \$ | prof |
| t- | "In the 90th year of Chwang Kung, being Ting-szi (54th year of the cycle), on the '9-1. Aug. 25 first of the 9th moon, being the day Kang-wu (7th of the cycle of laye, the sun was elipsed." | 75 | Aug. 25 | | 6 | t. | |
| 80 | "In the year P. ng-yin 3rd of the cyclet being the 5th of Hi Knng, the first of the 18th man, the day Wushin 45th of the cycle of days. The cyn. was a pred | | 14 | A :: 5. 19 | 7 | t * | - |

| a "In the year B season, 3rd eclipsed." 10 "In the year I the 5th mc 11 "In the year I moon, the 6th mc 12 "In the year I the 6th mc 13 "In the year I moon, the moon, the dth mc 14 "In the year i the dth moon, dth moo | | Date B.C. | Date indicated. B.C. | New Moon. Tables. Jerusalem Civil Time. | foon. em Civ | Tabl | es. |
|--|---|--------------|-------------------------|--|-----------------|-------|----------|
| | "In the year Kwei-yiu (10th of the cycle), being the 12th of Hi Kung, in the spring season, Sid moon, on the day Kang-wu (7th of the cycle of days), the sun was eclipsed." | 648. | 648. April 6 | April. | d. 6 | , 4°. | m. 39 |
| | "In the year Ping-tszi (13th of the cycle), being the 15th of Hi Kung, in summer, the 5th moon, the sun was eclipsed." (Cannot be verified.) | 645. | | | | | 1 |
| | "In the year Yih-wi (32nd of the cycle), being the first of Wan Kung, in the 2nd moon, the day Kwei-hai (60th of the cycle of days), the sun was ecuipsed." | 626. | Feb. 3 | Feb. | က | œ | 10 |
| | "In the year Ki-yiu (46th of the cycle), the 15th of Wan Kung, on the first day of the 6th moon, being sin-chau (38th of the cycle of days), the sun was eclipsed." | 612. | April 28 | April. 28 | 28 | 0 | 53 |
| | "In the year Kang-shin (57th of the cycle), the 8th of Seuen Kung, autumn, 7th moon, the day Kia-tszi (1st of the cycle), the sun suffered a total eclips:" | ! | 601. Sept. 20 | Sept 20 | 50 | œ | 55 |
| | "In the year Jin-Seuh (59th of the cycle), the 10th of Seuen Kung, summer, at the 4th moon, the day Ping-chin (53rd of the cycle), the sun was eclipsed." | 599. | Mar. 6 | Mar. | 9 | က | 17 |
| <u> </u> | "In the year Ki-szi (6th of the cycle), the 17th of Seuen Kung, at the 6th moon, the day Kwei-mao (40th of the cycle of days), the sun eclipsed." (Not verified.) | 592. | | | | | |
| | "In the year Pingseuh (23rd of the cycle), the 16th of Ching Kung, at the beginning of the 6th moon, on the day Ping-yin (3rd of the cycle of days), the sun was eclipsed." | 575. | May 9 | May . | 6 | 2 | 43 |
| 17 "In the year the 12th | "In the year Ting-hai (24th of the cycle), the 17th of Ching Kung, the first day of the 12th moon, being Ting-szi (54th of the cycle), the sun was eclipsed." | 574. | Oct. 22 | Oct 22 | 22 | 0.1 | 35 |
| 18 "In the year 2nd moo | "In the year Jin-yin (39th of the cycle), the 14th of Siang Kung, the 1st day of the 2nd moon, being Yih-wi (the 32nd of the cycle of days), the sun was eclipsed." | 559. | Jan. 14 | Jan 14 | 14 | 6 | 14 |

ANCIENT CHINESE ECLIPSES, FROM THE CHUN TSIU, OF CONFUCIUS.

| | | Date B.C. | Date indicated. B.C. | New Moon. Tables. Jerusalem Civil Time. | ivii T | les. |
|------------------------|---|--------------|-------------------------|--|----------|----------|
| No. | | | - 1 | | 1 | |
| 1 | "In the year Sin-Yiu (the 58th of the cycle of 60) the 3rd of the Prince Yin Kung, in the season of spring, the 2nd moon, the day Ki-szi (being the 6th of the cycle in the season of spring, the 3nd moon, the day Ki-szi (being the 6th of the cycle in the season of spring, the 2nd moon, the day Ki-szi (being the 6th of the cycle in the season of spring, the 2nd moon, the day Ki-szi (being the 6th of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the first of the cycle in the season of spring the cycle in the cycle in the cycle in the season of spring the cycle in the | 720. | 720. Feb. 22 | d. Feb. , 22 | æ' ∓ | m. 43 |
| 621 | "In the year of the cycle Jin-Shin (the 9th) being the 3rd year of the Prince Hwan Kung, in autum, the 7th moon, the day Jin-ohin (29th) at new moon, the sun man, and the cycle Jin-ohin (29th) at the moon, the sun man, and the sun moon, the sun man, and the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, and the sun man, the first moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the day Jin-ohin (29th) at new moon, the sun man, the first moon, the sun man, the first moon, the sun man, the first moon, the sun man, the | 709. | 709, July 17 | July . 17 | ∞ | 55 |
| , , | "In the 17th year of Hwan Kung being ping-seuh (23rd of cycle) winter, the 10th moon at new moon, the sun had an echipse." | 695. | Oct. 10 | Oct. , 10 10 | 10 | 35. |
| 4 | "In the year Yih-szi (42nd of the cycle) being the 18th of Chwang Kung, spring season, 3rd moon, the sun was eclipsed." | 676. | 676. April 15 | April. 15 | 10 | 6 |
| <i>r</i> o | "In the year Jin-tszi (49th of the cycle) 25th year of Chwang Kung, beginning of the defth moon, on the day Sin-wi (8th of the cycle of days) the sun had an eclipse." | | 669. May 27 | May . 27 | 8 | 2 |
| 9 | "In the year Kwei-chau (50th of cycle), the 26th of Chwang Kung, winter, 12th 659. Nov. 10 moon, the day Kwei-hai (60th of cycle of days), the sun was eclipsed." | % % | Nov. 10 | Nov 10 | 1 | 6 11 |
| The same acceptance of | "In the 90th year of Chwang Kung, being Ting-szi (54th year of the cycle), on the first of the 9th moon, being the day Kang-wu (7th of the cycle of days), the sun was elipsed." | | W. Aug. 25 | Aug. 25 | 2 | |
| co | * In the year Ping-yin (3rd of the cycle), being the 5th of Hi Kung, the first of the 9th moon, the day Wu-shin (45th of the cycle of days, the sun was evined." | 3 | 655 Aug. 19 | Aug I9 | . | 3 |

| ž. | | Date indicated. B.C. | | New Moon. Tables. Jerusalem Civil Tinee. | Tab ivil T | des. ime. | |
|----|---|-------------------------|----------|---|---------------|--------------|---|
| 6. | "In the year Kwei-yiu (10th of the cycle), being the 12th of Hi Kung, in the spring season, 3rd moon, on the day Kang-wu (7th of the cycle of days), the sun was eclipsed." | 648. April 6 | | d. i | л. 9 | m. 39 | |
| 10 | "In the year Ping-tszi (18th of the cycle), being the 15th of Hi Kung, in summer, the 5th moon, the sun was eclipsed." (Cannot be verified.) | 645. | | | | | 1 |
| Ħ | "In the year Yih-wi (32nd of the cycle), being the first of Wan Kung, in the 2nd moon, the day Kwei-hai (60th of the cycle of days), the sun was eclipsed." | 626. Feb. 3 | F | Feb 3 | 8 | 10 | 1 |
| 12 | "In the year Ki-yiu (46th of the cycle), the 15th of Wan Kung, on the first day of the 6th moon, being sin-chau (38th of the cycle of days), the sun was eclipsed." | 612. April 28 | | April. 28 | 0 | 53 | |
| 13 | "In the year Kang-shin (57th of the cycle), the 8th of Seuen Kung, autumn, 7th moon, the day Kia-tszi (1st of the cycle), the sun suffered a total eclips:" | 601. Sept. 20 | <u> </u> | Sept 20 | œ | 52 | |
| 14 | "In the year Jin-Seuh (59th of the cycle), the 10th of Seuen Kung, summer, at the 4th moon, the day Ping-chin (53rd of the cycle), the sun was eclipsed." | 599. Mar. 6 | <u> </u> | Mar. 6 | co | 17 | |
| 15 | "In the year Ki-szi (6th of the cycle), the 17th of Seuen Kung, at the 6th moon, the day Kwei-mao (40th of the cycle of days), the sun eclipsed." (Not verified.) | 592. | | | | | |
| 16 | "In the year Pingseuh (23rd of the cycle), the 16th of Ching Kung, at the beginning of the 6th moon, on the day Ping-yin (3rd of the cycle of days), the sun was eclipsed." | 575. May 9 | M | May . 9 | 2 | 43 | |
| 17 | "In the year Ting-hai (24th of the cycle), the 17th of Ching Kung, the first day of the 12th moon, being Ting-szi (54th of the cycle), the sun was eclipsed." | 574. Oct. 22 | Oct. | t. , 22 | 73 | 35 | |
| 18 | "In the year Jin-yin (39th of the cycle), the 14th of Siang Kung, the 1st day of the 2nd moon, being Yih-wi (the 32nd of the cycle of days), the sun was eclipsed." | 559. Jan. 14 | | Jan 14 | 6 | 14 | |
| | | | | | | | |

| 5 | | Date indicated. B.C. | i | New Moon. Tables. Jorusalem Civil Time. | Givil | Time | . 6 |
|-----|--|-------------------------|---------|--|-------|-----------|-----|
| 4 | | | | | 7.0 | ء نہ | m. |
| 19 | "In the year Kwei-mau (40th of the cycle), being the 15th of Siang Kung, autumn, the 8th moon, on the day Ting-szi (54th of the cycle of days), there was an | 558. | May 81 | May . 80 % | ži (2 | ا م | 9 |
| 8 | 1 | 558. | Aug. 31 | Aug 31 | | 11 | ಣ |
| · · | | | | | | | 6 |
| 12 | "In the year Ki-yin (46th of the cycle), the 21st of Siang Kung, the 1st day of the | 552. A | Aug. 20 | Aug 20 | | . | 07 |
| 22 | | | | | | | |
| | - | 550. Ja | Jan. 5 | Jan. | 20 | 20 | 20 |
| 73 | "In the year Sin-hai (48th of the cycle), being one gold of the sun was eclipsed." season, on the day Kwei-yiu (10th of the cycle of days), the sun was eclipsed." | | | | | | - |
| 24 | "In the 24th year of Siang Kung, being Jin-tszi (49th of the cycle), autumn, beginning of the 7th moon, on the day Kia-tszi (1st of the cycle of days), the | 549. | June 19 | June . 19 | 19 | 9 | 19 |
| 252 | "In the beginning of the 8th moon, on the day Kwei-szi (30th of the cycle of days), | 549. | July 18 | July . 18 | | 13 | 20 |
| 56 | "In the 27th year of Siang Kung, being Yih-mao (52nd of the cycle), winter, beginning of the 12th moon, the day Yih-hai (12th of the cycle of days), the | 546. Oct. 13 | et. 13 | Oct 13 | 13 | C2 | 13 |
| | sun was edulpseu. | 7,37 | Mar. 18 | Mar. 18 | 18 | 2 | 15 |
| 27 | "In the 7th year of Chao-Kung, being Fing-yin (ord or the cycle), summer; c-g-ring of the 4th moon, on the day Kia-chin, the sun was eclipsed." | | | | | | |

| No. | | Date B.C. | Date indicated. B.C. | New Moon. Tables. Jerusalem Civil Time. | oon. m Civ | <i>Table</i> il Tir | ss. ne. |
|-----|---|--------------|-------------------------|--|----------------|------------------------|------------|
| 58 | "In the 15th year of Chao Kung, being Kia-seuh (11th of the cycle), beginning of the 6th moon, on the day Ting-szi (54th of the cycle), the sun was eclipsed." | 527. | 527. April 18 | $\left \begin{array}{c} d. \\ \text{April. 18} \end{array}\right $ | $\frac{d}{18}$ | h. | m. 23 |
| 29 | "In the 17th year of Chao Kung, being Ping-tszi (13th of the cycle), summer, beginning of the 6th moon, the day Kia-seuh (11th of the cycle of days), the sun was eclipsed." | 525. | 525. Aug. 21 | Aug 21 | | 13 | 98 |
| 8 | "In the 21st year of Chao Kung, being Kang-chin (17th of the cycle), autumn, beginning of the 7th moon, on the day Jin-wu (19th of the cycle of days), the sun was eclipsed." | 521. | 521. June 10 | June . 10 | 10 | 20 | 18 |
| 31 | "In the 22nd year of Chao Kung, being Sin-szi (18th of the cycle), beginning of the 12th moon, the day Kwei-yiu (10th of the cycle of days), the sun was eclipsed." | 520. | Nov. 23 | Nov 23 | 53 | ب و | 00 |
| 32 | "In the 24th year of Chao Kung, being Kwei-wi (20th of the cycle), summer, beginning of the 5th moon, the day Yih-wi (32nd of the cycle of days), the sun was eclipsed." | 518. | April 9 | April. | 6 | 41 | 121 |
| 93 | "In the 31st year of Chao Kung, being Kang-yin (27th of the cycle), beginning of the 12th moon, the day Sin-hai (48th of the cycle), the sun was celipsed." | 511. | Nov. 14 | Nov 14 | 14 | 4 | 4 |
| 37 | " In the 5th year of Ting Kung, being Ping-shin (33rd of the cycle), spring season, beginning of the 3rd moon, the day Sin-hai (48th of the cycle), the sun was eclipsed." | 505. | Feb. 16 | Feb. , 16 | 16 | 6 | 15 |
| 35 | "In the 12th year of Ting Kung, being Kwei-mao (40th of the cycle), beginning of the 11th moon, the day Ping-yin (3rd of the cycle of days), the sun was eclipsed." | 498. | S.pt. 22 | Sept 22 | 55 | 6 | 17 |
| 98 | "In the 15th year of Ting Kung, being Ping-wu (48rd of the cycle), beginning of the 8th moon, the day Kang-chin (17th of the cycle), the sun was eclipsed." | 495. | 495. July 22 | July . 22 | 55 | က | 9 |

Coming down to later times, we add the following twelve historically recorded lunar eclipses, as specimens of the very large number of historical eclipses verified by the Tables.

LUNAR ECLIPSES.

| в.с. | Day. Hour. | Locality. Authority. | Tables. Jerusalen Civil Tim |
|------|--------------------------------------|--|-----------------------------------|
| 45 | Nov. 7. Two hours | D 0 1 "N++ " | d. 76 |
| 45 | after midnight. | Rome. Ovid, "Met." | 1011 |
| 4 | Mar. 13. Night of 12th to 18th March | | Mar. 13 |
| A.D. | | | |
| 14 | Sept. 27. Four in the morning. | Tacitus, "Annals." Soon after death of Augustus. | Sept. 27 |
| 364 | Nov. 26. | Theon, "Commentary on Almagest of Ptolemy." | Nov. 26 |
| 452 | Sept. 15. | 8th year of Merovius. King of Franks. Trithemius. | Sept. 15 |
| 716 | Jan. 13. "Till mid night." | In time of Pope Gregory. "14th Indiction." Anastasius. | Jan. 13 20 |
| 800 | Jan. 15. Eight in the evening. | Saxon Chronicle. | Jan. 15 2 |
| 883 | July 23. | Observed by Albatani. | July 23 1 |
| 1204 | | Matthew Paris. | April 16 |
| 1248 | June 7. | , , | June 7 2 |
| 1457 | Sept. 3. 11.17 p.m (Struyk). | | |
| 1460 | July 3. 7.31 p.m. | 27 21 | July 3 2 |

The Tables are of practical value, not only in confirming dates, but in the discovery of errors. The following errors is the list of eclipses given in Ferguson's "Astronomy" (takes professedly from Struyk and Ricciolus) have been discovere by a comparison of his dates with those in the Tables. I each of these instances the dates in the Tables are confirme by Oppolzer's invaluable "Canon der Finsternisse."

ERRATA IN FERGUSON'S LIST OF ECLIPSES.

From Struyk's Catalogue to a.d. 1485; rest from Ricciolus.

Reduced to Civil Time.

| в.с. | Character of Eclipse. | Date- | _Fer | guso: | n. | Jerusale | Table em Ci | s. vil T | ime. |
|------|--------------------------|-------|------|-------|----|----------|----------------|-------------|------------|
| | | | d. | h. | m. | | d. | h. | <i>m</i> . |
| 403 | Solar | Aug. | 28 | 17 | 53 | Aug. | 23 | 18 | 8 |
| 357 | Lunar | Aug. | 29 | 19 | 29 | Aug. | 9 | 18 | 53 |
| 188 | Solar | July | 7 | 8 | 38 | July | 17 | 9 | 5 |
| 2 | n | Feb. | 2 | 8 | 8 | Feb. | 5 | 2 | 59 |
| A.D. | | | | | | | | | |
| 290 | 33 | May | 15 | 15 | 20 | May | 25 | 23 | 40 |
| 787 | 20 | Sept. | 15 | 8 | 43 | Sept. | 16 | 10 | 37 |
| 989 | 21 | May | 28 | 18 | 54 | May | 8 | 1 | 50 |
| 1207 | ,, | Feb. | 27 | 22 | 50 | Feb. | 28 | 13 | 1 |
| 1228 | 77 | Dec. | 27 | 21 | 55 | Dec. | 28 | 10 | 15 |
| 1327 | Lunar | Sept. | 1 | 6 | 26 | Sept. | 2 | 7 | 23 |
| 1341 | 27 | Nov. | 29 | 0 | 23 | Nov. | 24 | L 1 | 16 |
| | <u> </u> | | | | | | | | |
| 1491 | Solar | Mar. | 8 | 14 | 19 | May | 8 | 15 | 21 |
| 1495 | Lunar | Mar. | 11 | 4 | | | non | ne | |
| 1499 | n | June | 23 | 5 | | | non | ne | |
| 1499 | Solar | Aug. | 24 | 6 | | | no | ne | |
| 1499 | Lunar | Nov. | 17 | 22 | | | no | ne | |
| 1500 | Solar | Mar. | 27 | | | May | 28 | 2 | 12 |

ERRORS IN EQUINOX DATES AND DOMINICAL LETTERS.

Greswell's otherwise valuable Chronological Tables are wrong in their Julian Equinox dates and Dominical Letters from their commencement to the third century A.D. In the table which follows, it will be seen that while Greswell's dates agree on the whole with those in our Tables from the third century A.D. onward, they differ from them in all the preceding centuries. The error of Greswell's tables has been clearly demonstrated by Browne—Ordo Sæclorum, pp. 522–526—and by other chronologers.

ERROR OF GRESWELL'S CHRONOLOGICAL TABLES.
"FASTI CATHOLICI."

| B.C. | Fasti (Julia: Equino | n | Dom. Let. | Ta Verna Equin | bles ul : ox | Dom. | A.D. | Fasti (Julian Equin | a I | olici Dom. Let. | Verna Equin | | om. Let. |
|--|-----------------------------|--|-------------------|----------------------|--|----------------------------|--|---|--|-----------------------|----------------|---|---------------------|
| 1622 1522 1422 1322 1222 1122 1022 922 722 622 522 422 322 222 122 22 | Apr. | 7 6 5 4 3 3 2 1 31 30 28 27 27 26 25 24 23 | EGBDFGBDFACEFACEG | Apr. | 5 4 3 2 2 1 31 30 30 29 28 27 26 26 25 24 23 | C D E F G A | 79 179 279 379 479 579 679 779 879 1079 1179 1279 1479 1479 1679 1679 1779 | Mar. """ """ """ """ """ "" "" "" | 23 22 21 20 20 19 18 17 16 16 15 14 13 12 11 10 | A CEFGABCDEFGABCDEFG | Mar. | 28 22 21 20 19 19 18 17 16 16 15 14 12 11 10 9 | CDEFGABCDEFGABCDEFG |

2. The second practical use of the Tables is in the ascertainment or verification of series of dates.

The Tables possess a special value as casting a clear, direct light on the recorded dates of ancient and modern calendars, Jewish, Grecian, Roman, Christian, Mohammedan, etc. In illustration of the use of the Tables in the study of this branch of Chronology, we present, in the first place, specimens of the two principal Greek Calendars—the Octaëteris, or 8-years Calendar, and the Calendar of the celebrated Metonic Cycle (19-years Calendar), with the corresponding dates in the Tables. The Delphian Octaëteris is that given by Greswell in "Origenes Kalendariæ Hellenicæ," vol. vi., p. 666.

DELPHIAN OCTAËTERIS.

GRESWELL, "ORIGENES KALENDARIÆ HELLENICÆ."

Epoch, August 1, B.c. 542.

| Είλαΐος Β. | xiii. 30. | | | May 80 June 28 | | 6 July 5 | | · · | 8 " 2 |
|--|-----------|------------------------|---------|----------------|----------------|----------|---------|-----------------|---------------|
| Είλαΐος. | xii. 29. | June 21 | ,, 10 | | June 18 | " | " 25 | " 14 | 2 |
| Βουκάτιος. | xi. 30. | May 22 | 11 " | 1 Apr. 30 | May 19 June 18 | 7 | ,, 26 | , 15 | ,, 4 |
| Βοαβόος. Θευξένιος. Ἡράκλειος, Βουκάτιος. Εἰλαΐος. | х. 29. | Mar. 24 Apr. 23 May 22 | ,, 12 | " T | " 20 | 8 | ,, 27 | , 16 | ro ro |
| Θευξένιος. | ix. 30. | Mar. 24 | " 13 | . 23 | " 21 | 6 " | 88 | " 17 | 9 " |
| Βοαθόος. | viii. 29. | Feb. 24 | ,, 12 | | , 20 | 6 " | , 27 | " 16 | <u>.</u> م |
| Βύσιος. | vii. 30. | Jan. 25 | " 13 | °21 | ,, 21 | " 10 | . 28 | " 17 | 9 " |
| Ήραΐος. | vi. 29. | Dec. 27 | " 15 | " 4 | , 23 | , 12 | " 30 | ,, 19 | & * |
| | т. 30. | Nov. 27 | , 15 | ,, 4 | ,, 23 | , 12 | " 30 | ,, 19 | 8 |
| 'Αποτρό- 'Απελλαΐος. Δαιδαφό- πιος. | iv. 29. | Oct. 29 | " 17 | 9 " | ., 25 | ,, 14 | Nov. 1 | Oct. 21 | " 10 |
| 'Αποτρό- πιος. | iii. 30. | Sept. 29 | " 17 | 9 " | " 25 | , 14 | Oct. 2 | Sept. 21 | , 10 |
| Ποιτρό- πιος. | ii. 29. | Aug. 1 Aug. 31 | ,, 19 | ° 20 | ,, 27 | " 16 | Sept. 3 | July 24 Aug. 23 | ,, 12 |
| Ένδυσποι- τρόπιος. | i. 30. | Aug. 1 | July 20 | 6 " | , 28 | " 17 | Aug. 4 | July 24 | ,, 13 |
| | Cycle. | •:1 | ij | *iii. | iv. | * | vi: | vii. | *viii. |
| | B, C. | 542 | *541 | 540 | 539 | 538 | *537 | 536 | 535 |

DELPHIAN OCTAËTERIS.

DATES FROM THE TABLES, JERUSALEM CIVIL TIME.

Epoch, July 31, B.c. 542.

| os B. | xiii. 30. | | | ne 6 h. | | $\frac{1}{14}$ h . | | | lly 12 h. |
|--|-----------|--|--|--|---|---|---|--|--|
| Είλαΐος Β. | HZ | | | $\frac{J_{\rm D}}{29 d}$ | | 6 d. | | | $\frac{\mathrm{J}_{\mathrm{u}}}{\mathrm{3}d}$. |
| Είλαΐος. | xii. 29. | $_{20d,13h}^{\rm June}$ | $_{10d.6h}^{\rm June}$ | $\frac{\mathrm{May}}{30d.22h}$ | $\begin{array}{c} \text{May} \\ 18d.19h. \end{array}$ | $\begin{array}{c} \text{May} \\ 7 d. 0 h. \end{array}$ | $\max_{25d.17h.}$ | $\frac{\mathrm{May}}{14d.18h}$ | $ \text{May}_{4d.0h.} $ |
| Βουκάτιος. | . xl. 30. | $_{22d.6h.}^{\rm May}$ | $M_{ m ay} = 11d.23h.$ | May $1 d. 12 h.$ | $\operatorname*{May}_{20d.7h.}$ | $\begin{array}{c} \text{May} \\ 8 d. 9 h. \end{array}$ | $\mathop{\rm May}_{27\ d.\ 1\ h.}$ | $\begin{array}{c} \text{May} \\ 16d.4h. \end{array}$ | $\begin{array}{c} \text{May} \\ 5d.\ 15h. \end{array}$ |
| Ήράκλειος. | x. 29. | $\underset{22\ d.23\ h.}{\text{April}}$ | $^{\rm April}_{12d.15h.}$ | April $1d.28h$. | $\operatorname*{April}_{20d.17h.}$ | $_{8d.18h.}^{\mathrm{April}}$ | April $27 d.10 h.$ | $_{16d.17h.}^{\rm April}$ | $^{\rm April}_{6\ d.\ 6\ h.}$ |
| Θευξένιος. | ix. 30. | Mar. 24 <i>d</i> .16 <i>h</i> . | Mar. $14 d. 4 h.$ | Mar. 8 d. 8 h. | Mar. 22 d. 1 h. | Mar. 10 d. 2 h. | Mar. 28d.21h. | Feb. Mar. April 16d.21h, 18 d. 7 h, 16 d. 17 h. | Mar. 7 d. 22 h. |
| Βύσιος. Βοαθόος. Θευξένιος. Ἡράκλειος. Βουκάτιος. Είλαιος. | viii, 29. | July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. April May June 31 d. 10h, 30 d. 0h. 128d. 17h, 28 d. 12h, 27 d. 7h, 12 d. 7h, 12h, 25 d. 17h, 12h, 24 d. 6h, 24d. 16h, 22 d. 23h, 22 d. 23h, 22 d. 6h, 20d. 18h. | July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. April May June 19d,21h,18d, 7h,16d,20h,16d,12h,15d,6h,15d,6h,16d,2h | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. April May May May 284,14h. 26d, 22h. 25d, 27h. 24d,18h,23d, 7h. 22d,22h,21d,15h,20d,8h,22d,1h. 20d,17h,20d,7h. 18d,19h. | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. April May May 5 d. 3h. 3 d. 14h. 8 d. 11h. 1 d. 11h. 30d. 22h. 30 d. 9h. 28d. 20h. 27 d. 21h. 27 d. 10h. 27 d. | July Aug. Sept. Oct. Nov. Dec. Jan. Feb. Mar. April May May 25.d. 38 h. 22d. 13h. 22d. 18h. 22d. 2h. 20d. 14h. 20d. 1h. 18d. 11h. 16d. 21h. 18d. 17h. 16d. 17h. 16d. 17h. 16d. 14h. 18h. | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 1 | vii. 30. | Jan. 25d.17h. | Jan. 13 <i>d</i> .21 h. | Jan. 2 d. 20 h. | $_{21d.15h.}^{\rm Jan.}$ | Jan. 10d.21 h. | $_{28d.20h.}^{\rm Jan.}$ | Nov. Dec. Jan. 20d.14h. 20 d. 1 h. 18d.11h. | Jan. 8 d. 3 h. |
| 'Нрадоз. | vi. 29. | Dec. 27 d. 1 h. | Dec. 15 d. 2 h. | Dec. $4d.2h$. | Dec. 22 d. 22 h. | Dec. 12 d. 8 h. | Dec. 30 d. 9 h. | Dec. 20 d. 1 h. | Dec. 9 d. 15 h. |
| Δάιδαφό- ριος. | v. 30. | Nov. 27 d. 7 h. | Nov. 15 d. 6 h. | Nov. $4d.8h$. | Nov. 23 d. 7 h. | $ \text{Nov.} \\ 12d.20h. $ | $\begin{array}{c} \text{Nov.} \\ 30d.22h. \end{array}$ | Nov. 20d.14h. | Nov. 10 d. 2 h. |
| 'Αποτρό- Απελλαΐος. Δάιδαφό- πιος. | iv. 29. | Oct. 28 d. 12 h. | Oct. $16 d.12 h.$ | $\begin{array}{c} \text{Oct.} \\ 5 d. 18 h. \end{array}$ | Oct. 24 d. 18 h. | Oct. $14 d.9 h$. | $_{1d.11h.}^{\rm Nov.}$ | Oct. $22 d. 2 h.$ | Oct. 11 d. 10 h. |
| 'Αποτρό- πιος. | iii. 30. | Sept. 28 <i>d</i> .17 <i>h</i> . | Sept. 16 d. 20 h. | Sept. 6 d. 6 h. | Sept. 25 d. 7 h. | Sept. $14d.23h$. | Oct. 3 d. 1 h. | Sept. $22 d.13 h.$ | $\begin{array}{c} \mathrm{Sept.} \\ 11d.18h. \end{array}$ |
| Ποιτρό- πιος. | ii. 29. | Aug. 30 d. 0 h. | Aug. 18 d. 7 h. | $^{\operatorname{Aug.}}_{7\ d.\ 21\ h.}$ | Aug. 26 d. 22 h. | $\begin{vmatrix} \operatorname{Aug.} \\ 16d.14h. \end{vmatrix}$ | Sept. $3d.14h$. | Aug. 23 <i>d</i> . 23 lı. | $\begin{array}{c} \text{Aug.} \\ 13 \ d. \ 1 \ h. \end{array}$ |
| Ένδυσποι- | 1. 30. | July 31 d. 10 h. | | $\begin{array}{c} \text{July} \\ 9 \ d. \ 13 \ \hbar. \end{array}$ | $\begin{array}{c} \mathrm{July} \\ 28d.14h. \end{array}$ | $^{\rm July}_{18d.5h.}$ | $\begin{array}{c} A ug. \\ 5 d. 3 h. \end{array}$ | $\begin{array}{c} \text{July} \\ 25d.~8h. \end{array}$ | $^{\rm July}_{14d.9h.}$ |
| | Cycle. | ٠;٠ | ::i | iii. | iv. | ۶ | vi. | vii. | viii. |
| | B.0. | 542 | 541 | 540 | 539 | 538 | 282 | 236 | 535 |

INTERCALARY MONTHS IN THE METONIC CYCLE,

From the first year of the cycle, commencing with the new moon nearest to the Summer Solstice, B.C. 432, to the adoption of the Cycle of Calippus, containing four Metonic periods, or 76 years, July, s.c. 330. Dates from Tables, Jerus. C. T.).

| ,- | | |
|-------------------------------------|-----------------------------------|---|
| | New Moon Intercalary Month. | June 13 |
| | B.C. | 332 |
| | New Moon Intercalary Month. | June 12 , 20 , 17 , 14 , 23 , 18 |
| | B.C. | 353 351 348 345 345 345 340 337 |
| | New Moon Interculary Month. | June 12 " 17 " 18 " 22 " 19 " 19 |
| | ä. G. | 372 370 367 364 362 359 359 |
| | New Moon Intercalary Month. | June 12 " 19 " 18 " 21 " 21 " 19 |
| | B, G | 891 889 856 853 851 875 |
| | New Moon Interculary Month. | June 12 " 20 " 17 " 22 " 23 " 19 |
| 5 | B, C. | 408 405 405 402 400 307 894 |
| (Daves Hom Labres, 9 or us, O. 1.). | New Moun Interculary Mouth, | June 16 20 21 27 28 17 29 14 29 29 29 29 20 20 20 20 20 20 |
| 7 | p g | 483 429 427 424 424 419 416 418 |
| Tranca III | Inter- culary Years. | HII. VIII. XII. XXI. XXII. XXII. |

Many references occur in the writings of Josephus to dates connected with the history of the Jewish war. A list of these is given in Browne, "Ordo Sæclorum," p. 537-544, together with the following table of the Jewish and Syromacedonian months in the years A.D. 66-70. These dates are confirmed, and to some extent corrected, by those in our Tables.

JEWISH AND SYROMACEDONIAN MONTHS, A.D. 66-70. (Browne, Ordo Sectorum.)

April 29 May 28 April 14 Tu May 29 " June 26 W June 27 Th July 26 July 27 Aug. 24 Aug. 25 Sept. 23 Sept. 24 Oct. 8 Nov. 22 Dec. 20 32Oct. 23 Nov. 21 2 Mar. A.D. 70. : : : : : T_E အီ အ = Ħ 2 Œ z Th Mar. 1 F Mar. 30 April 10 May 9 Mar. 12 26 April 9 May 10 June 7 June 8 July 7 July 8 Aug, 5 A.D. 70. Jan. 29 Tu Jan. 30 W Feb. 28 Aug. 6 Tu Sept. 5 Sept. 4 Nov. 2 걾 Oct. 4 Nov. 3 Dec. 1 Dec. 2 69 Jan. 1 Oct. : 4.D. Th F ⋈ Sa Z SS ⊵ 2 2 154 2 ďΩ Mar. 23 April 6 ,, 20 April 21 May 20 Aug. 17 Sept. 15 June 19 July 18 Tu July 19 ,, Aug. 16 May 21 June 18 Sept. 16 0". 30 Oct. 14 Oct. 15 Nov. 13 Feb. 10 Mar. 11 Nov. 14 Dec. 12 Pu Dec. 13 Fh Jan. 12 W Jan. 11 A.D. 68, Feb. 9 A.D. 69. ፥ : $^{
m L}_{
m p}$ TP F Sa \mathbb{Z}^{∞} 2 ജ്ജ Ħ Ē S E Days. 5257 30.7 30 53 33 73 30 **-**200 53 : : 8 ಭ 128 M Feb. 22 Tu Mar. 22 April 3 Aug. 29 Sept. 12 Tų June 2 W July 1 Th , 30 July 31 Aug. 28 Sept. 28 Oct. 26 April 4 Th Mar. 5 May 3 June 1 A.D. 68, в. Sa Jan. 23 May 2 Nov. 25 Nov. 26 Jan. 24 Feb. 21 Dec. 24 Dec. 25 Oct. 27 4.D. 67. يتاء Ē Œ ß -i & May 18 W May 14 Th June 12 Tu April 15 July 12 Aug. 10 June 18 July 11 Aug. 11 Sept. 8 Tu Sept. 9
28
W Oct. 8 Th Oct. 9 " Nov. 6 Nov. 7 Feb. 3 Feb. 4 Dec. 6 4.D. 66. Dec. 7 Jan. 5 A.D. 67. Mar. : : တ္ထင္တ La Ħ = Ħ > ß Days. 30 12 30 29 80 39 30 53 T3 35 T 29 30 29 29 30 : Hyperberetæus Jewish and Syromacedonian M. Sivan . . . Dæsius . . Ljar . . . Dius . . . Artemisius Xanthicus Marchesvan Andynæus Thamuz . Gorpiæus Panemus Peritius. Dystrus . Apellæus Dioscorus Ve-adar . Ab. . Lous . Tisri . Adar. 1. Nisan Tebeth 11. Shebat Kisleu લં ကဲ 4 ŭ 6 6 10. ထံ 12 13.

JEWISH AND SYROMACEDONIAN MONTHS, A.D. 66-70. Dates from Taber, Jerusalem Civil Time.

| The second secon | | | | | |
|--|--|--------------------------------------|---|--|--|
| Jewish and Syromacedonian M. | А.В. 66. | А.В. 67. | A.D. 68. | А.D. 69. | А.В. 70. |
| 1. Nisan | d. h. Mar 14 20 Friday | d. h . d . d . d . Wednesday | $\begin{array}{c} d. h. \\ \text{Mar.} 22 3 \\ \text{Tuesday} \end{array}$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | $\begin{array}{ccc} d. & h. \\ \text{Mar.} & 30 & 20 \\ \text{Friday} \end{array}$ |
| 2. Ijar | April. 13 11 | April. 2 15 | April. 20 12 | April. 10 3 | April. 29 3 |
| | Sunday | Thursday | Wednesday | Monday | Sunday |
| 3. Sivan | May . 13 2 | May . 2 4 | May . 19 23 | May 9 11 | May . 28 10 |
| | Tuesday | Saturday | Thursday | Tuesday | Monday |
| 4. Thamuz | June 11 18 | May . 31 18 | June 18 11 | June 7 19 | June . 26 17 |
| | Wednesday | Sunday | Saturday | Wednesday | Tuesday |
| 5. Ab | July 11 8 | June . 30 9 | July . 18 2 | July, 7 6 | July . 26 3 |
| | Friday | Tuesday | Monday | Friday | Thursday |
| 6. Elul | Aug. 9 21 | July . 30 1 | Aug. 16 18 | Aug. · ō 19 | Aug 24 14 |
| | Saturday | Thursday | Tuesday | Saturday | Friday |
| 7. Tisri | Sept. 8 9 | Aug 28 17 | Sept 15 11 | Sept. 4 11 | Sept. 28 5 |
| | Monday | Friday | Thursday | Monday | Sunday |
| 8. Marchesvan Dius | Oct. 7 21 | Sept 27 8 | Oct 15 4 | Oct. 4 5 | Oct 22 23 |
| | Tuesday | Sunday | Saturday | Wednesday | Monday |
| 9 Kisleu | Nov. 6 8 | Oct 26 21 | Nov. 13 20 | Nov. 3 0 | Nov. 21 18 |
| | Thursday | Monday | Sunday | Friday | Wednesday |
| 10. Tebeth | Dec. 5 19 | Nov 25 10 | Dec 13 11 | Dec. 2 18 | Dec. 21 13 |
| | Friday | Wednesday | Tuesday | Saturday | Friday |
| 11. Shebat | Jan 4 6 Sunday | Dec 24 21 Thursday | Jan. 11 23 Wednesday | Jan. 1 10 Monday | |
| 12. Adar | Feb. 2 16 Monday | Jan., 23 8 Saturday | Feb 10 10 Friday | Jan 31 0 Wednesday | |
| 18. Ve-adar | | Feb 21 18 Sunday | | Mar. 1 11 Thursday | |
| | The second secon | | | | |

CANON OF S. HIPPOLYTUS.

The Octaëteris, or 8-years' lunar cycle, was one of the Paschal cycles in early use in the Christian Church. In the year A.D. 1551 was disinterred near the church of St. Laurence, at Rome, a marble monument of an ecclesiastic seated in a chair, on each side of which was an inscription in Greek; on the right side, a Paschal cycle beginning at the first year of Alexander Severus, with seven columns of dates; and on the left a table of corresponding Easter Sunday dates. The monument is preserved in the Vatican.

The exordium of the Canon is as follows:—"In the first year of the Emperor Alexander, the fourteenth of the Passover fell on the Ides of April, Saturday, the preceding year having received an intercalary month. In the succeeding years the day will be as is set down below in the Table. In the preceding years it fell as is here marked." The statue has been recognised as that of Hippolytus, Bishop of Portus, who wrote a treatise on the Passover, and constructed a 16-years Paschal cycle (the Octaeteris doubled).

We give here a copy of the Paschal Table of the monument. The first column contains the date of the 14th day of the Paschal moon, for 16 years, with the weekdays indicated by the first seven letters of the alphabet. The remaining columns contain only the weekdays, on the assumption that the Julian date recurs after a lapse of sixteen years. It is interesting to observe that the earliest Paschal limit in the Canon of Hippolytus is the 18th of March, which was, according to the Acta Pilati, the day of the Crucifixion, A.D. 29.

This venerable Christian calendar is correct as to its weekdays throughout, and also as to the coincidence of the full moon with its 14th day of the month in the earlier entries; but the later dates are out of harmony with the times of full moon, owing to the error of the 8-years' cycle, as will be seen by a comparison of the Julian dates in the first column of the Canon of Hippolytus, and those in the remaining columns, with the dates of the actual full moons from our lunar Tables. Thus, instead of the first date, April 13, being repeated in the years A.D. 222, 238, 254, 270, 286, 302, and 318, as in the Canon, the true dates of full moon in those years are April 14, 16, 19, 22, 26, 29, and May 2; the error growing with each repetition of the cycle, until it amounts to 18 days, and in its course making the Paschal full moon of the Canon of St. Hippolytus coincide with the new moon of the heavens. The error of the Canon in its later, and its correctness in its earlier dates, confirm the inscription it bears assigning its composition to the first year of the Emperor Alexander Severus, A.D. 222.

CANON OF S. HIPPOLYTUS. (Browne, Ordo Sæclorum).

| A.n. 6th Cycle, A.n. 6th Cycle. A.n. 7th Cycle. | 918 Sun. 9 Thurs. 820 Mon. | | 5 Thurs. 6 Wed. 7 Sun.) | (Exode)) 8 Thurs. 9 Wed. Passover in | the Desert) 330 Sun. 1 Thurs. 2 Wed. (Ezra) 3 Sun. |
|---|--|--|---------------------------------------|--------------------------------------|--|
| 6th Cycle. | Mon. Fri. Tues. | | Fri. Thurs. Mon. | Fri. Thurs. | Mon. Fri. Thurs. Mon. |
| 4.b. | 302 | 20 0 1− 00 | 9 310 1 | c3 to | 4 6 6 |
| th Cycle. | Tues. Sat. Wed. | Tues. Sat. Wed. Tues. | Sat. Fri. Tues. | Sat. Fri. | Tues. Sat. Fri. Tues. |
| A.D. 6 | 286 | 9 290 1 | ಚ 4 ಸ | 9 | 8 9 300 1 |
| 4th Cycle. | Wed. Sun. Thurs. | Wed. Sun. Thurs. Wed.(Joshua) | Daniel)} Sun. Sat. Wed. | Sun. Sat. | Wed. Sur. Sat. Wed. |
| A.D. | 270 1 2 | 83 4 70 9 | 8 6 | 280 | 02 to 4 10 |
| 3rd Cycle. | Thurs. Mon. Fri.) | (Joshua) } 7 Thurs. 8 Mon. 9 Fri. 60 Thurs. | Mon. Sun. Thurs. | Mon. Sun. | Thurs. Mon. Sun. Thurs. |
| A,D. | 254 5 6 | (J. 7 7 8 8 9 9 | H 22 63 | 4 73 | 9 8 |
| A.D. 2nd Cycle. A.D. 3rd Cycle. A.D. | 238 Fri. 9 Tues. 240 Sat. | 1 Fri. 2 Tues. 3 Sat. 4 Fri. | 5 Tues. 6 Mon. 7 Fri. | 8 Tues. 9 Mon. | 250 Fri. 1 Tues. 2 Mon. 3 Fri. Reassion) |
| 1st Cycle, | Sat. Wed. (Nativity) Sun. (Hezekiah) | Sat, (Josias) Wed. Sun. Sat, | Wed. Tues. Sat. | Wed. Tues. | Sat. Wed. Tues. (Exodus) Daniel |
| 4, D. | 222 8 4 | v 0 5 8 | 9 230 1 | 01 co | 4 7 6 5 7 8 8 8 |
| 14th of the Moon. | 1 13 April 2 2 April 8 21, 20 Mar. | 4 9 April 5 29 Mar. 6 18 Mar. 7 5 April | 8 25 Mar. 9 13 April 10 2 April | 11, 21, 20 Mar. 12, 9 April | 18 29 Mar. 14 18 Mar. 15 5 April 16 25 Mar. |

CANON OF S. HIPPOLYTUS, (Dates from Tabes, Jerusalem Civil Time.)

| 1 | 1 | 1 |
|-----------|---|---|
| | May 2 April 21 | May 8 April 23 " 111 " 80 " 19 " 9 " 253 " 16 |
| A.D. | 318 319 320 321 321 322 328 324 325 | 826 827 828 829 829 830 831 832 |
| | April 29 " 18 " 6 " 25 " 15 " 4 " 22 | April 80 " 19 " 27 " 16 " 28 |
| A.D. | 302 304 305 305 306 307 308 308 | 310 311 312 313 314 315 316 |
| | April 26 " 15 " 22 " 12 " 12 " 19 " 8 | April 27 " 16 " 54 " 13 " 24 " 24 " 13 |
| A.D. | 286 287 288 289 290 291 291 292 293 | 294 295 296 297 298 299 300 301 |
| A.D. A.D. | April 22 Mar. 31 April 19 " 9 Mar. 29 April 16 " 5 | April 24 " 18 " 21 " 21 " 10 Mar. 30 April 17 |
| A.D. | 270 271 272 273 274 275 275 276 | 278 279 280 281 252 253 254 255 |
| | April 19 " 8 Mar. 28 April 16 " 6 Mar. 26 April 12 " 2 | April 21 Mar. 30 April 18 Mar. 27 April 14 ** ** ** ** ** ** ** ** ** ** ** ** ** |
| A.D. | 254 255 256 257 258 259 260 260 | 262 263 264 265 266 267 268 268 |
| | April 16 Mar. 25 April 13 April 13 Mar. 23 April 10 Mar. 28 | April 18 Mar. 27 April 15 " " 4 Mar. 24 April 11 " 1 |
| A.D. | 288 239 240 241 242 243 244 244 245 | 246 247 248 249 250 251 252 253 |
| | April 14 " 8 " 21 " 10 Mar. 30 April 7 Mar. 27 | April 15 " 5 Mar. 24 April 12 " 1 Mar. 21 April 8 Mar. 29 |
| A.D. | 222 224 224 225 225 227 228 228 | 230 231 232 233 234 235 235 236 237 |
| | 11 23 28 41 25 45 75 80 | 9 11 12 13 13 14 15 16 16 |

EPACT IN THE CHRISTIAN CALENDAR.

In our modern calendar the epact for the year is given. The application of the dates in the *Tables* to the Christian calendar of past times casts interesting light on the origin of the ecclesiastical use of epact, or the time when it was first introduced from the Greek into the Christian calendar.

A discovery of the errors of the Octaëteris, and other similar cycles, led to the employment of epact. In old style the epact was the age of the moon on the first possible location of Easter day, the 22nd of March; in new style epact means the age of the moon on the 1st of January. The excess of the solar year above the lunar is 10 d. 21 h. In case the new moon falls on the 1st of January, its age on the following 1st of January will be 10 d. 21 h., or 11 days. In the second year it will be double this, or 22 days; and in the third year treble, or 31-32 days; of this quantity 29\forall days will form an intercalary month, and the remaining 3 days will be the epact for the year.

In the course of the 19-years' lunar cycle, the epact for the contained years will be 11, 22, 3, 14, 25, 6, 17, 28, 9, 20, 1, 12, 23, 4, 15, 26, 7, 18, 29 days. In the following table this series of epact amounts stands in the first column, while the true age of the moon on the 22nd of March is shown in three 19-years' periods, separated by 532 years. (The period of 532 years consists of the 28-years' solar cycle of the week, multiplied by the 19-years' lunar cycle.) It will be seen that while a comparison of the epact quantities in the first column with the age of the moon in the central sixth century column reveals a correspondence, in the first century column the age of the moon on the 22nd of March falls short of the assigned epact by 2 days throughout, and in the eleventh century column the dates are 2 days in excess. The correspondence in the centre column indicates

the antiquity of the ecclesiastical calendar, and confirms the historical date of its origin.¹

EPACT. OLD STYLE.

(JERUSALEM CIVIL TIME.)

| Epact. | A.D. | Age of Mean Moon. March 22. | A.D. | Age of Mean Moon. March 22. | A.D. | Age of Moun Moon. March 22. |
|---------------------------------------|---|--|---|---|--|-----------------------------------|
| d. 11 22 3 14 25 6 17 28 9 20 1 12 23 | 1 2 8 4 5 6 7 8 9 10 11 12 18 | March 22. d. h. 8 15 19 6 0 8 11 23 22 15 3 17 14 8 25 28 7 2 17 17 28 8 10 11 21 2 | 588 584 585 586 587 588 589 540 541 542 548 544 545 | March 22. d. h. 10 7 20 28 2 1 18 16 21 8 5 10 16 1 27 16 8 19 19 10 0 12 12 4 22 19 | 1065 1066 1067 1068 1069 1070 1071 1072 1078 1074 1075 1076 | |
| 4 15 | 14 15 | 2 4 12 20 | 546 547 | 8 21 14 12 | 1078 1079 | 5 14 16 5 |
| 26 7 | 16 17 | 24 11 5 13 | 548 | 26 4 | 1080 | 27 21 |
| 18 29 | 18 19 | 5 13 16 4 26 20 | 549 550 551 | 7 6 17 21 28 18 | 1081 1082 1088 | 8 28 19 14 0 17 |

¹ A simple and ingenious correction of the epact quantities employed in the calendar was proposed by Luilius, and adopted at the reformation of the calendar; it consisted of increasing the epact 1 day in 16 lunar cycles, or 304 years, or changing the epact series 11, 22, 3, etc., to 12, 23, 4, etc.

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The lunar character of the Jewish Calendar is shown in the following table of the twelve months which constituted its year 5604, corresponding to Sept., 1843—Aug., 1844. The true new moons are from our Tables; and it will be noticed that the Jewish months fall a little later, and that they fairly agree with the dates of lunar phasis.

CALENDAR OF JEWISH YEAR 5604.

| No. of Month. | True New Moons—Tables. | | | ables. | Jewish Months. | | |
|--|--------------------------------|--|--|---|--|---|---|
| I. III. IV. V. VI. VII. VIII. IX. X. XI. | Sept. Oct., Nov. Dec. | | 23 21 21 18 19 18 19 17 17 16 15 | 19 19 7 20 10 2 18 11 2 16 | 58 53 54 21 21 50 30 53 10 35 | Sept. 25 Oct. 25 Nov. 24 Dec. 24 Jan. 22 Feb. 21 Mar. 21 April 19 May 19 June 18 July 17 Aug. 16 | 1st of Tisri ,, Hesvan ,, Kislev ,, Tebet ,, Sebat ,, Adar ,, Nisan ,, Yiar ,, Sivan ,, Tamuz ,, Ab ,, Elul |

SOLAR AND LUNAR CYCLES.

3. Having shown the use of the Tables in the verification of particular dates, and of series of dates, it remains to exhibit their use in tracing lunar and solar cycles.

The 49-years' Jubilee cycle, employed in early times by the Jews, has an error which accumulates to 1 month in 22 Jubilees, or 1078 years. In the following table the accumulation of the error can be seen at a glance, and its correction in the 1078 years' cycle.

2300-YEARS' CYCLE.

CORRECTING THE ERROR OF THE 19-YEARS' METONIC CYCLE.

JERUSALEM CIVIL TIME, O.S.

| No. | Years. | в.с. | Vernal | Equi | nox. | Mean N | ew M | oon. |
|-----|--------|-------------|--------|------|------|--------|------|------|
| | | | | d. | h. | | d. | h. |
| | | 457 | Mar. | 26 | 10 | Mar. | 25 | 12 |
| 1 | 209 | 248 | 37 | 25 | 1 | " | 25 | 2 |
| 2 | 418 | 39 | 33 | 23 | 16 | ,, | 24 | 16 |
| 3 | 627 | а.р. 171 | ,,, | 22 | 7 | ,, | 24 | 5 |
| 4 | 836 | 380 | , , | 19 | 22 | ,, | 22 | 19 |
| 5 | 1045 | 589 | ,, | 18 | 13 | ,,, | 22 | 9 |
| 6 | 1254 | 798 | ,, | 17 | 5 | ,,, | 21 | 23 |
| 7 | 1463 | 1007 | ,, | 15 | 20 | " | 21 | 13 |
| 8 | 1672 | 1216 | ,, | 13 | 11 | , ,, | 20 | 3 |
| 9 | 1881 | 1425 | ,, | 12 | 2 | 'n | 19 | 17 |
| 10 | 2090 | 1634 | ,, | 10 | 17 | , ,, | 19 | 7 |
| 11 | 2299 | 1843 | ,, | 9 | 8 | ,, | 18 | 21 |
| | | 1844 | ,, | 8 | 14 | " | 7 | 6 |

We terminate our brief examination of cycles connected with the principal calendars by tracing the 42 cycles of the Mohammedan Calendar, which extend from its starting point at the Hejira era, July 16, A.D. 622, to the year 1844. The Mohammedan Calendar is strictly lunar, and is based on a 30-years' cycle of the lunar month and solar day. Thirty lunar years are 360 months, or lunations, each month being reckoned at 29 d. 12 h. 44 m. The fraction 12 h. 44 m., multiplied by 360, amounts to 191 d. 0 h. 0 m. Thus 360 lunations, or 30 lunar years, are 10,631 d. 0 h. 0 m., according to the Mohammedan Calendar, which omits the small remaining fraction of 3 seconds in the length of the lunation.

The first of Moharram in the calendar corresponds with the lunar *phasis*, and is preceded by the actual new moon throughout, as shown in the following table:—

 ${}_{\mbox{lxxii}}$ 42 LUNAR CYCLES OF THE MOHAMMEDAN CALENDAR.

| No. Cycle. | Lunar Year. | A.D. | New Jerusal | Moor em C | , Tab | les. lime. | First day of Moharram. L'art de verifier les dates. |
|--|---|--|--|---|---|---|---|
| 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 24 25 26 27 28 29 30 31 32 33 34 35 36 37 | 1 81 61 91 121 151 181 224 271 801 831 861 891 421 451 481 571 601 691 721 751 751 811 841 871 991 1021 | 622 651 6-0 709 788 797 826 855 884 913 942 971 1000 1050 1050 1088 1117 1146 1175 1204 1283 1262 1291 1350 1370 1408 1437 1466 1495 1524 1553 1588 1612 | July . Aug Sept Nov Dec Jan Mar April . May . June . Aug Sept Oct May . June . July . Aug April . May . June . July . Aug Sept Oct Toc Toc Jan Feb Mar April . May . July . Aug Sept Oct Jan Feb | d. 14 22 28 6 15 24 3 11 19 26 5 13 22 28 6 15 25 3 11 19 26 5 13 22 29 9 17 5 5 11 18 7 5 13 21 31 | h. 7 3 16 13 22 11 15 6 19 18 2 2 9 6 16 17 5 18 19 16 14 12 10 18 16 4 19 1 13 22 18 7 | Wed. Mon. Fri. Wed. Sun. Fri. Th. Tu. Sat. Th. Tu. Sat. Th. Tu. Sat. Th. Tu. Son. Fri. Th. Tu. Son. Fri. Th. Tu. Sun. Fri. Wed. Mon. Fri. Th. Tu. Sun. Fri. Wed. Mon. Fri. Tu. Sun. Fri. Tu. Sun. Fri. Tu. Sun. | July 16 . Fri. Aug. 24 . Wed. Oct. 1 . Mon. Nov. 9 . Sat. Dec. 18 . Th. Jan. 26 . Tu. Mar. 5 . Sun. April 18 . Fri. May 22 . Wed. June 29 . Mon. Aug. 7 . Sat. Sept. 15 . Th. Oct. 24 . Tu. Dec. 1 . Sun. Jan. 9 . Fri. Feb. 17 . Wed. Mar. 27 . Mon. May 5 . Sat. June 18 . Th. July 22 . Tu. Aug. 29 . Sun. Oct. 7 . Fri. Nov. 15 . Wed. Dec. 24 . Mon. Jan. 31 . Sat. Mar. 11 . Th. April 19 . Tu. May 27 . Sun. July 27 . Sun. July 28 . Tu. Aug. 18 . Sat. Mar. 11 . Th. April 19 . Tu. May 27 . Sun. July 5 . Fri. Aug. 18 . Wed. Sept. 21 . Mon. Oct. 29 . Sat. Dec. 7 . Th. {Jan. 15, O S. |
| 37 | 1081 | 1670 | May . | 9 | 5 | Mon. | May 11 Wed. |
| 38 | 1111 | 1699 | June. | 17 | 11 | Sat. | $\begin{cases} \text{June 19} & \dots & \text{Mon.} \\ 29 & \dots & \dots \end{cases}$ |
| 39 | 1141 | 1728 | July . | 25 | 18 | Th. | July 27 Sat. |
| 40 | 1171 | 1757 | Sept | 2 | 16 | Tu. | $\left\{\begin{array}{ccc} \text{Sept.} & 4 & \cdots & \text{Th.} \\ & & 15 & \cdots & \end{array}\right.$ |
| 41 | 1201 | 1786 | Oct | 11 | 5 | Sun. | Oct. 13 Tu. |
| 42 | \begin{cases} \\ 1281 \\ 1260 \end{cases} | 1815 1844 | Nov Jan | 19 7 | 1 20 | Fri. Fri. | Nov. 21 Sun. Dec. 3 Sun. Jan. 10 Mon. |

4. The principal use of the *Tables* is the demonstration they afford of the astronomic character and value of the periods 1,260 and 2,300 years, and of their difference 1,040 years; periods shown to be solar and lunar cycles by the Swiss astronomer, De Cheseaux, more than a century ago.

The present volume of Tables confirms the remarkable conclusions reached by De Cheseaux, and greatly enlarges the evidence of the accurate and far-reaching adjustment connecting these periods with solar and lunar revolutions. De Cheseaux proved that 1,260 and 2,300 tropical years, and their difference 1,040 years, are cycles of synodic months and solar or equinoctial years, and that the latter is the largest accurate cycle of this order known, besides being a cycle of the solar day and solar year. The present volume of Tables proves that 2,300 years has a cyclical connection with solar and lunar anomaly, that it is a cycle of the anomalistic month, with the synodic month and solar year, and also measures 40 days of the annus magnus of the revolution of the solar perigee with reference to the equinoxes; and that therefore it is possible to deduce from these periods not only the measures of the synodic month and tropical year, but those of the anomalistic month and anomalistic year, and that with such correctness as to afford a basis for the computation of astronomic tables of equinoxes, and new and full moons, both mean and true, for any required period.

More than 100,000 solar and lunar dates, extending over 3,555 years, have been calculated from these remarkable cycles, and are tabulated in this volume; namely 101,217 vernal equinoxes, and new and full moons, mean and true, occupying 627 pages of printed matter. The correctness of the *Tables* is amply confirmed by the correspondence of their dates of new and full moons with those of more than 12,000 solar and lunar eclipses in Oppolzer's invaluable *Canon der Finsternisse*.

Finding M. de Cheseaux's work in the British Museum, and having had it carefully transcribed, I submitted the copy to the examination of the late Professor J. C. Adams, of Cambridge, in the year 1878. While verifying De Cheseaux's calculations as to the cyclical character of the periods 1,260, 2,300, and 1,040 years, Professor Adams pointed out that De Cheseaux had erred in supposing "that the excentricity of the earth's orbit was the same in the time of Daniel as in his own time, whereas it, was very sensibly greater." De Cheseaux's error on this point, which arose from the imperfection of astronomic knowledge on the subject in his day, certainly vitiated his attempt to derive from these cycles the five elements of the solar theory; in his own words, to deduce "les einq elements de la Theorie du Soleil, d'une manière autant et plus exacte, que par les meilleures methodes astronomiques." Within the last century, Laplace, Leverrier, Adams, Hansen, Plana, De Pontécoulant, and other astronomers have devoted much attention to the question of the diminution of the excentricity of the earth's orbit, and have not only established the change of excentricity and measured its rate, but have traced out its cause and its effects; that it is "due to the combined action of all the other planets," and is the cause of the secular acceleration of the moon's mean motion, a change which is "one of the most curious and instructive in the range" of physical astronomy, "one which leads our speculations farther into the past and future, and points to longer vistas in the dim perspective of changes which our system has undergone, and is yet to undergo, than any other which observation, assisted by theory, has developed."1 The moon is now "about a degree ahead of where she ought to have been had her motion been uniform from the time of Hipparchus and Ptolemy." 2 The investigations of Pro-

¹ Outlines of Astron., Sir J. Herschel, art. 740. ² Newcomb, Astron., p. 96.

fessor Adams have shown that the account received by astronomers of the cause of lunar acceleration was incomplete, and explained only half the acceleration. Delaunay, the French mathematical astronomer, traced the remaining effect to "tidal friction" as reducing the rate of the earth's axial revolution.

A consequence of the secular acceleration of the moon's mean motion is that the value of the synodic month, generally accepted by astronomers in the present day, 29d. 12h. 44m. 2.84s., or 29.5305887 days, yields results which require correction for distant periods, past or future. It is impossible to assign any period as the exact measure of the synodic month which will hold good for all time. In adopting as the measure of the synodic month, at the base of the present Tables, a period slightly larger than the above, derived directly from the 1,040 years' cycle, viz., 29d. 12h. 44m. 3s. 6thirds, or 29.5305916, we employ a measure which, in the absence of any correction for secular inequalities, yields better results than the best and most accurate measures of the lunation now used by astronomers.

In illustration of this we may point to the dates in the present Tables of the mean new moons in the fourth century, when the Christian Calendar now in use took its rise. Calculating the date of the first mean new moon in A.D. 301 (Jerusalem civil time) by the tables in the Encyclopædia Britannica, and correcting for secular inequalities, we reach results which closely agree with the date of the mean new moon in our Tables.

¹ Exceeding 29.5305887 by .0000029, a fraction of a single second.

² For past dates.

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| d. | h. | m. | s. |
|----|--------------------------------|---|---|
| 14 | 7 | 39 | 9 |
| | | | 59 |
| 25 | 20 | 5 | 8 |
| + | 2 | 21 | 0 |
| + | 12 | | 0 |
| 26 | 10 | 26 | 8 |
| - | - 1 | 18 | 33 |
| 26 | 9 | 7 | 35 |
| | 14 11 25 + + 26 | $ \begin{array}{rrr} 14 & 7 \\ 11 & 12 \\ \hline 25 & 20 \\ & + 2 \\ & + 12 \\ \hline 26 & 10 \\ & - 1 \end{array} $ | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ |

On comparing the result here with our Tables, we find a close agreement with our uncorrected mean new moon for the same date. The first mean new moon, A.D. 301, in our Tables is January 26d. 9h. 7m. The agreement of our mean new moon with the corrected mean new moon of the Encyclopædia Britannica, proves that the 1,040 years' cycle, from which we derive our measures, is closely adjusted to the chronology of the century distinguished by the institution of the Christian Calendar.

In order to show this fact we have calculated by the astronomical tables in the *Encyclopædia Britannica*, 7th edition, the date of the first mean new moon in each century from A.D. 1801 to B.C. 800, applying in every case the secular corrections, which run from 0h. 0m. 0s. in 1801, to 3h. 52m. 5s. in B.C. 800. We have then compared the series of dates thus obtained with the mean new moons in our *Tables* for the same period, and find the following differences:—

¹ The date of the Council of Nice was A.D. 325.

FIRST MEAN NEW MOON IN EACH CENTURY.

DIFFERENCES OF THE DATES IN OUR TABLES FROM THOSE CALCULATED FROM TABLES IN ENGINEERINA BRITANNICA, CORRECTED BY SECULAR EQUATIONS.

| A.D. | Differences. | A.D. | Differences. |
|------|-----------------|------|--------------|
| | h. m. s. | | h. m. s. |
| 1801 | -0 2 0 | 201 | +0 4 20 |
| 1701 | -0 5 39 | 101 | +0 11 35 |
| 1601 | -0 9 35 | 1 | +0 18 36 |
| 1501 | -0 13 48 | B.C. | |
| 1401 | -0 16 19 | 100 | +0 26 16 |
| 1301 | -0 18 9 | 200 | +0 33 35 |
| 1201 | -0 19 16 | 300 | +0 42 33 |
| 1101 | -0 20 41 | 400 | +0 51 11 |
| 1001 | -0 20 25 | 500 | +1 2 27 |
| 901 | -0 19 28 | 600 | +1 12 21 |
| 801 | -0 17 50 | 700 | +1 23 54 |
| 701 | -0 15 30 | 800 | +1 35 |
| 601 | -0 13 30 | | |
| 501 | -0 10 50 | | |
| 401 | -0 5 29 | | 3.0 |
| 301 | -0 0 | | |

The adjustment of the measures of the lunation derived from the 1,040 years' cycle to the uses of the Christian Calendar is proved by the fact that the error resulting from their employment nowhere exceeds 20 minutes. Employing these measures, and starting with the month of March, A.D. 1844, we reach an error of 2 minutes in 1801; the error grows to 20 minutes in A.D. 1101, and then diminishes to 0h. 0m. in A.D. 301, increasing again to $18\frac{1}{2}$ minutes in A.D. 1.

In computing the long series of lunar dates contained in our Tables, the saving of time and labour by dispensing with the use of secular equations has been very great. When employing our Tables, those who are desirous of greater accuracy than they afford can apply the needed corrections, but the errors we have indicated may well be considered as

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too small to affect injuriously the value of the Tables for all ordinary chronological purposes.

On page xvii. the first solar eclipse of each century from B.c. 1100 to A.D. 1900, as stated in Oppolzer's Canon, is compared with the corresponding true new moon of our Tables. It will be observed that while the mean difference between the two series of new moons is -10 minutes, the minus differences prevail in the second half of the series, and the plus differences in the first half. This agrees with the result we have just exhibited of employing a measure of the synodic month derived from the 1,040 years' cycle, exceeding by a fraction of a second that used by Oppolzer and other modern astronomers. Though thus slightly exceeding the lunation of the most modern tables, our measure of the synodic month is in fairly close agreement with the lunation of lunar tables of a little older date.

LUNATION.

| | 1 | d. | h. | m. | 8. | "" | 1111 |
|-------------------|-------|----|----|----|----|----|------|
| Ferguson's Tables | | 29 | 12 | 44 | 3 | 2 | 58 |
| From 1.040 Years' | Cvcle | 29 | 12 | 44 | 3 | 6 | 57 |

10,000 LUNATIONS.

| | d. | h. | m. | s. | ## |
|-------------------------|---------|----|----|----|----|
| Ferguson's Tables | 295,305 | 21 | 48 | 15 | 20 |
| From 1,040 Years' Cycle | 295.305 | 21 | 59 | 19 | 8 |

The mean of the lunations used by Cassini, Flamsteed, De la Hire, Bouillaud, Tycho, etc., as shown by De Cheseaux, has no sensible difference from the measure yielded by the 1040 years' cycle.

A word in conclusion as to the labour and care with which the present *Tables* have been computed. The whole of the new moons from B.C. 747 to A.D. 1934, and also of the vernal equinoxes for the same period, have been *twice computed*, and the results carefully compared throughout.

The first calculation of the true new moons was made on Houzeau's method "du calcul rapide des phases lunaires, à l'usage des personnes qui s'occupent d'ètudes historiques," based on the 7,412 days' anomalistic cycle, containing 251 synodic and 269 anomalistic months. This extensive table was calculated for me under the supervision of E. Walter Maunder, Esq., F.R.A.S., Secretary of the Royal Astronomical Society. Though valuable as a first draft, and as a means of checking the correctness of later work, the table, owing to its method of calculation, was less accurate than that presented in this volume; it was also less extensive, as commencing with B.C. 747 (date of the Nabonassar Era), whereas the present Tables ascend 875 years further to the probable date of the Exodus, B.C. 1622.

In the preparation of the present Tables I have had the assistance of a very careful computer, Mr. Thomas Wright, of the Nautical Almanac Office, who has also corrected the proofs as the work passed through the press. As an indication of the general accuracy of the work I may refer to the test of the mean new moons of the tables afforded by the 1040 years' cycle. Applied at any point the lunar cycle of 1,040 years shows a correspondence of the mean new moons at its commencement and close. The anticipation of the Julian equinox in 1,040 years is just 8 days; allowing for this, it will be found that the new moons correspond with remarkable accuracy.

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CORRESPONDENCE OF MEAN NEW MOONS IN THE 1040 YEARS' LUNAR CYCLE.

| A.D. | | | | | A.D, | | | | | |
|------|--|--------|----|----|------|-------|---|----|-----|------|
| | * N 1011 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 | d. | ħ. | m. | | | | d, | ħ. | nt. |
| 826 | Mar. | 20 | 9 | 27 | 1866 | Mar. | | 12 | 9 | 27 |
| | April | 18 | 22 | 11 | | April | ٠ | 10 | 22 | 11 |
| | May. | 18 | 10 | 55 | | May. | ٠ | 10 | 10 | 15.7 |
| | June | 16 | 28 | 89 | | June | | 8 | 28 | 35 |
| | July. | 16 | | 23 | | July | | H | 12 | 23 |
| | Aug. | 15 | 1 | 7 | | Aug. | ٠ | 7 | 1 | 7 |
| | Sept. | 18 | 13 | 51 | | Sept. | | 5 | 133 | 61 |
| | Oct | 18 | 2 | 85 | | Oct | ٠ | 5 | 2 | 87 |
| | Nov. | 11 | 15 | 19 | | Nov. | | 8 | 15 | 11 |
| | Dec | 11 | 4 | 8 | | Dec | | 33 | 4 | ٤ |

| в.с. | Mean Nev | w Moon. | Diffe | ronce. |
|------|----------|---------|--------|--------|
| | | d. h. | m. d. | h. m. |
| 1622 | April | 5 5 | 12) 8 | 0 0 |
| 582 | March . | 28 5 | 12 } | 0 0 |
| 1046 | Sept | | | 0 0 |
| 6 | Sept | 13 8 | 2 } 6 | 0 0 |
| 1012 | March . | 12 0 | 0) | |
| A.D. | | | 8 | 0 0 |
| 29 | March . | 4 0 | 0) | |
| B.C. | | | | |
| 82 | Jan | 20 8 | 1) | |
| A.D. | (_) | | 8 | 0 0 |
| 959 | Jan. , . | 12 8 | 1) | |
| 29 | March . | 4 0 | 0) 0 | 0 0 |
| 1069 | Feb | 21 0 | 0 } 8 | 0 0 |
| 622 | July | 14 0 | 17) 0 | |
| 1662 | July | 6 0 | | 0 0 |
| 894 | Oct | 8 12 | 10) 0 | |
| 1934 | Sept | | | 0 0 |

We will close this Introduction by citing the testimony of one or two competent witnesses as to the intimate connection of Natural and Revealed Chronology.

In the chapter on Chronological Astronomy, contained in the fourth edition of his Handbook of Astronomy, George F. Chambers, F.R.A.S., after giving an account of De Cheseaux's discoveries brought under public notice in my works, and also of some of my investigations in the same direction, adds the following reflections: "Such are some of the adjustments which astronomy discloses between the prophetic times and the periods which affect the material universe. They are adjustments of such a character as only modern science, with its instruments of exact precision, could discover, and were of necessity unknown to the prophets of bygone ages. The periods which the prophets foretold as destined to measure cycles of moral harmonization are themselves cycles of material harmonization. There is a mutual adjustment between the material and moral worlds. The course of revealed Redemption chronology, Levitical and Prophetic, is in profound and exact agreement in all its details and all its extent with the Time Order of the Universe."1

We will conclude with a sentence from De Cheseaux's treatise on the astronomical character of the prophetic times in the Book of Daniel. "For many ages the Book of Daniel, and especially these passages of it, have been quoted and commented on by numerous and varied authors, so that it is impossible for a moment to call in question their antiquity. Who can have taught their author the marvellous relation of the periods he selected with soli-lunar revolutions? Is it possible, considering all these points, to fail to recognise in the Author of the Book of Daniel, the Creator of the heavens and all their hosts, of the earth and the things that are therein?"

¹ Vol. II., p. 467.

SUPPLEMENTARY NOTES BY MR. MARTH ON THE EQUINOX DATES, AND LENGTH OF THE EQUI-

THE Vernal Equinoxes in this volume are all mean Vernal Equinoxes. A Table has been computed by Mr. Marth, which we append, to exhibit the correction they require for the times (approximately stated) of the true Vernal Equinoxes.

"What is the real time of the Equinox? It is the time when the plane of the Earth's equator apparently passes through the Sun's centre, or when the geocentric declination of the Sun is 0°. About the time of the Equinox the hourly rate of change of declination is about 1', or in one minute of time the declination changes about 1". The determination of the time of the Equinox is accordingly a rather complicated problem, and Bradley's observations in the middle of the last century are really the first which nowadays can be used, the remaining errors at the Vernal Equinox being fortunately counteracted by those of the Autumnal Equinox. The differences of the times of successive Equinoxes vary considerably, as may be easily found by comparing the times given in the Nautical Almanac up to 1875, since later on the times are only given to the nearest hour. Yet the length of the sidereal solar year does not change, and that of the tropical year only changes on account of the precession changing. For the solar year is determined by the Sun's mean longitudes reckoned from the mean Equinox, and these are deduced from the observed longitudes by taking all the perturbations, and especially the eccentricity, of the earth's orbit duly into account. If all the smaller perturbations are neglected, and only the eccentricity and the shifting of the perigee are taken into account, the times between successive Vernal and Autumnal Equinoxes and the length of the tropical year may be found in the following

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computation deduced from Le Verrier's Tables, which are certainly the most trustworthy at present, though they may be supplanted before long by Newcomb's new ones, which will take into account the observations of the last forty years. By looking over the differences of the Equinoxes, it is seen that for the Vernal Equinoxes the differences increase, as they have done since B.C. 3000, when they were at a minimum $48^{\text{m}}\ 20^{\text{s}}\cdot8$; while the differences of the Autumnal Equinoxes decrease rather faster than the length of the tropical year."

LENGTH OF THE TROPICAL YEAR AT DIFFERENT DATES, COMPUTED FROM LEVERRIER'S TABLES."

| | Length of T | ropical Year. | Vernal Eq | quinoxes. | Autun | nal I | Equinoxes |
|---|----------------|---|---------------------|--|---------|----------------|---|
| B.C. 1608 1498 1378 1268 1148 1088 918 808 688 578 458 349 2228 B.C. 118 | d. h. 865 5 | 71. 8. 49 4.69 4.07 8.45 2.83 2.21 1.59 0.97 49 0.35 48 59.78 59.11 58.49 57.86 57.24 56.68 | h. m. 5 48 | \$. 27·4 28·0 28·6 29·4 30·2 31·1 38·2 34·5 37·0 38·3 30·5 40·6 | 7. 5 | ni. 49 | \$. 42:8 40:2 88:0 85:8 83:6 83:5 29:4 27:4 25:4 28:8 11:1 16:9 14:6 |
| A.D. 8 118 288 848 468 578 698 808 928 1088 1158 1268 1888 1498 1613 1728 1848 1958 2078 | 365 5 | 48 56-00 55-38 54-76 54-14 53-52 52-90 52-28 51-66 61-04 50-42 49-80 49-18 48-56 47-94 47-92 46-70 46-08 45-46 48-41-84 | 5 48 49, 5 49 | 41·8 42·8 43·8 44·8 45·8 47·9 49·1 50·8 53·1 55·8 55·8 59·2 10·9 | 5 | 49 49 48 | 12·2 7·1 4·5 50·4 50·5 4·5 50·0 4·5 4·5 4·5 4·5 4·5 4·5 4·5 4·5 |

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VERNAL EQUINOX DIFFERENCES.

The differences of the times are rather variable, as a comparison of the times given in the Nautical Almanac shows.

| | | | Vern | al Eq | nino | ces. | | | | 1 | httirrences. |
|------|---|---|-------|-------|------|------|------|------|----|---|--------------|
| | | | | d. | ħ. | 772. | | | | | |
| 1836 | | | March | 20 | 1 | 39 | Gree | nwic | h. | | 701. |
| 1840 | | | " | ** | 0 | 41 | | | | | 54 |
| 1844 | | | 17 | 19 | 28 | 55 | | | | | 411 |
| 1848 | | | 71 | " | 28 | 19 | | | | | :141 |
| 1852 | | | " | 19 | 22 | 42 | | | | | : 117 |
| 1856 | | | " | 11 | 21 | 49 | | | | | 53 |
| 1860 | | | 12 | 11 | 21 | 5 | | | | | 44 |
| 1864 | | | 17 | 1) | 20 | 10 | | | | | 55 |
| 1868 | | | " | 1) | 19 | 48 | | | | | 27 |
| 1872 | • | • | " | " | 18 | 57 | • | | | | -413 |

If one is content to get the times within some twenty minutes, so that the places of the moon and planets need not be taken into consideration, the computation becomes simple. and requires merely proper interpolation, as the data can be taken from R. Schram's "Hilfstafeln für Chronologie," in vol. xlv. of the Denkschriften of the Vienna Academy. In the following computation I give the list of the days when the sun enters Aries from Schram's Tables, after having converted the days of the Julian period into those of the ordinary Julian Calendar. The intervals of 42,002 8 days are those of 115 years, so that the correction is best effected by interpolating for intervals of twenty-three years, or for five sub-intervals, taking the second differences duly into account, and then interpolating for the single years. The comparison of the resulting times with those of the Tables shows the correction required by the latter in the last column.

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TABLE OF CORRECTIONS OF THE MEAN VERNAL EQUINOXES OF THIS VOLUME FOR DATES OF TRUE VERNAL EQUINOXES.

R. Schram, "Hilfstafeln für Chronologie." P. 10.

The dates in the first column are reduced from days of the Julian Period to the dates of the Julian calendar, and 6153 is added (59791 = 14 h. 21 m. for the reduction from Greenwich astronomical time to Jerusalem Civil Time, and 01738 for the added constants).

| | Je | Vernal Equirusalem Civil Old Styl | Time. | i | Schr | am. | | Tab | les. | Correct | ion. |
|--------------|------|--------------------------------------|----------------|------|---------------|----------|------------|-------------|------------|-----------------|------------|
| в.с. 1608 | Apr. | 4.8978 | 02:8285 | Apr. | $rac{d.}{4}$ | h. 21 | m. 33 | d. h. 14 | m. 56 | <i>h.</i> +6 | m. 37 |
| 1493 | 11 | 3.7263 | 8293 | 11 | 3 | 17 | 26 | 11 | 30 | 5 | 56 |
| 1378 | ,, | 8.5556 | ·8302 | 11 | 3 | 13 | 20 | 8 | 6 | 5 | 14 |
| 1263 | ,, | 2.3858 | 11 | 1) | 2 | 9 | 16 | 4 | 41 | 4 | 35 |
| 1148 | ,, | 1.2171 | 10 | 11 | 1 | 5 | 13 | 1 | 16 | 8 | 57 |
| 1033 | Mar. | 31.0494 | 14 -8337 | Mar. | 31 | 1 | 11 | 30 2 | 1 51 | 3 | 20 |
| 918 | ,, | 30.8831 | 14 -8351 | 11 | 80 | 21 | 12 | 18 | 26 | 2 | 4 6 |
| 803 | ,, | 29.7182 | 16 •8367 | ,,, | 2 9 | 17 | 14 | 15 | 1 | 2 | 18 |
| 688 | " | 28.5549 | 17 •8384 | " | 28 | 18 | 19 | 11 | 86 | 1 | 43 |
| 578 | ,, | 27.8933 | 17 •8401 | " | 27 | 9 | 26 | 8 | 11 | 1 | 1 5 |
| 458 | ,, | 27.2334 | 17 •8418 | ,, | 27 | 5 | 86 | 4 | 4 6 | 0 | 50 |
| 848 | " | 26.0752 | 17 •8485 | ,, | 26 | 1 | 4 8 | 1 | 21 | 0 | 27 |
| 228 | 13 | 24.9187 | 15 •8450 | ,, | 24 | 22 | 3 | 21 | 57 | +0 | 6 |
| 113 | " | 23.7637 | 15 002·8465 | " | 23 | 18 | 20 | 18 | 31 | -0 | 11 |
| л.р. В | ,, | 28.6102 | 15 8460 | ,, | 28 | 14 | 3 9 | 15 | 7 | 0 | 28 |
| 118 | ,, | 22.4582 | 12· •8492 | ,, | 22 | 11 | 0 | 11 | 42 | 0 | $4\dot{2}$ |
| 233 | ,, | 21.3074 | *8506 | " | 21 | 7 | 23 | 8 | 17 | 0 | 54 |
| 348 | ,, | 20.1580 | 18 •8519 | ,, | 20 | 3 | 4 8 | 4 | 52 | 1 | 4 |
| 468 | ,, | 20.0099 | ·8532 | ,, | 20 | 0 | 14 | 1 | 27 | 1 | 13 |
| 578 | " | 18.8631 | 15 •8547 | " | 18 | 20 | 48 | 22 | 2 | -1 | 19 |

| | J∈ | Vernal Equi erusalem Civ Old Styl | il Time. | | Schr | am. | | Tal | oles. | Correction | |
|-------------------------|------|---|-------------|-------|------|----------|----------|----------|----------|--------------|----------|
| в.е . 693 | Mar. | 17:7178 | 15 •8562 | · Mar | d. | h. 17 | т. 14 | h. 18 | т. 37 | <i>ħ.</i> −1 | m. 23 |
| 808 | " | 1 6·57 4 0 | 17 •8579 | " | 16 | 13 | 47 | 15 | 12 | 1 | 25 |
| 923 | ,, | 16.4319 | 18 •8597 | ,, | 16 | 10 | 22 | 11 | 47 | 1 | 25 |
| 1038 | " | 15.2916 | 17 8614 | " | 15 | 7 | 0 | 8 | 22 | 1 | 22 |
| 1153 | " | 14.1530 | 19 •8633 | " | 14 | 3 | 40 | 4 | 57 | 1 | 17 |
| 1268 | " | 13.0163 | 17 -8650 | " | 13 | 0 | 23 | 1 | 32 | 1 | 9 |
| 1383 | 17 | 12.8813 | 18 •8668 | ,, | 12 | 21 | 9 | 22 | 7 | 0 | 58 |
| 1498 | ,, | 11.7481 | 16 •8684 | " | 11 | 17 | 57 | 18 | 42 | 0 | 45 |
| 1613 | ,, | 10.6165 | 14 •8698 | ,, | 10 | 14 | 48 | 15 | 17 | 0 | 27 |
| 1728 | ,, | 9.4863 | 14 •8712 | 17 | 9 | 11 | 40 | 11 | 53 | -0 | 13 |
| 1843 | " | 9.3575 | 11 | " | 9 | 8 | 85 | 8 | 27 | +0 | 8 |
| 1958 | " | 8·2298 | 002-8723 | | | | | | | 1 | |

DATES OF EQUINOXES AND SOLSTICES, B.C. 552.

"I have computed the times of the Equinoxes and Solstices for the year B.C. 552, and find they agree with those of Schram. When were Professor Adams' computations made? or what Tables did he employ? By Schram's Tables, taking into account the six smaller terms, I find—

| | | | | d. | h. | m. | |
|------|------------------|----|-------|----|----|----|-----------------------|
| B.C. | Vernal Equinox | | March | 27 | 11 | 31 | Jerusalem Civil Time. |
| | Summer Solstice | ٠, | June | 29 | 15 | 6 | |
| | Autumnal Equinox | | Sept. | 29 | 15 | 33 | |
| | Winter Solstice | 2 | Dec. | 27 | 4 | 0 | |

NOTES ON PROFESSOR ADAMS' COMPUTATION.

The examination of De Cheseaux' calculations by Professor Adams as to the dates of the Equinoxes and Solstices B.C. 552, was made for the author of the present work in 1878. In a

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letter published at the time in the introduction to The Approaching End of the Age, Professor Adams says:—

"I have calculated very approximately the times of the Equinoxes and Solstices for the year B.C. 552, which is that given by De Cheseaux as the year of Daniel's vision, and I find the following results expressed in mean time at Jerusalem, reckoned from midnight.

| | | | d. | h. | m. |
|------------------|---|-------|----|----|----|
| Vernal Equinox | • | March | 27 | 8 | 2 |
| Summer Solstice | | June | 29 | 11 | 39 |
| Autumnal Equinox | • | Sept. | 29 | 11 | 51 |
| Winter Solstice | | Dec. | 27 | 0 | 17 |

Professor Adams did not mention what Tables he employed. On the variance of the two computations, Mr. Marth writes, "A difference of $3\frac{1}{2}$ or $3\frac{3}{4}$ hours seems due to some error which may indeed occur in sporadic computations if one does not check them in several ways. I have tried to find the cause of the discrepancy, but have not succeeded in hitting upon a plausible conjecture which might serve as an explanation."

MEAN AND TRUE LONGITUDE OF THE SUN AT THE NABONASSAR ERA, COMPUTED BY MR. MARTH.

"I have computed from Leverrier's Solar Tables the place of the Sun for—746, February 26th (B.C. 747), and find,—

| | | | | 1 | Alexa | ndri | a, noon | • |
|--------------------|---|---|---|---|-------|------|-----------------------|---|
| Mean Longitude | | | | | 327° | 58′ | 31.7" | |
| Equation of Centre | • | • | • | • | +2° | 2' | $42.0^{\prime\prime}$ | |
| True Longitude . | | | | | 880° | 1′ | 18.7" | |

"The equation of the centre is near its maximum, the perigee being in 236° 12.5′, and the eccentricity was at that time greater than at present.

"A. MARTH."

TABLE

OF

VERNAL EQUINOXES AND NEW MOONS

IN

"OLD STYLE"

FROM B.C. 1622 TO A.D. 1934.

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equipox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|------------|---|--|----------------------------|---------------|--|----------------------|
| B.C. 1622. | JAN Feb | d. h. m. | d. h. m. | B.C. 1619. c. | JAN Feb | d. h. m. 3 6 9 | d. h. m. 3 10 26 |
| April. | | · • • • | ••• | April. | | 1 18 53 | 2 4 33 |
| d. h. m. 5 5 32 | MAR | E E 10 | 5 9 90 | d. h. m. | MAR. | 3 7 38 | 3 20 20 |
| 5 5 32 | APRIL | 5 5 12 | 5 3 38 | 4 22 58 | APRIL | 1 20 22 | 2 9 10 |
| | MAY . | 4 17 56 3 6 40 | 4 11 17 2 20 2 | | MAY. | 1 9 6 | 1 19 17 |
| | JUNE . | | | | | 30 21 50 | 31 3 28 |
| | JULY. | 2 19 24 | $\left\{ \begin{array}{ccc} 2 & 6 & 52 \\ 31 & 20 & 26 \end{array} \right\}$ | | JUNE . | 29 10 34 | 29 10 46 |
| | Aug | $ \begin{cases} 1 & 8 & 8 \\ 30 & 20 & 52 \end{cases} $ | 80 12 45 | | July . Aug | 28 23 18 27 12 2 | 28 18 16 27 2 55 |
| | SEPT | 29 9 36 | 29 7 4 | | SEPT | 26 0 46 | 25 13 25 |
| | Oct | 28 22 20 | 29 2 4 | | Ост | 25 13 30 | 25 2 11 |
| | Nov | 27 11 4 | 27 20 14 | | Nov | 24 2 14 | 23 17 19 |
| | DEC | 26 23 48 | 27 12 19 | | DEC | 23 14 58 | 23 10 18 |
| 1621. | Jan | 25 12 32 | 26 1 39 | 1618. | JAN | 22 3 42 | 22 4 16 |
| F.E. | TEB | 24 1 16 | 24 12 16 | в. | FEB | 20 16 26 | 20 22 2 |
| • | MAR | 24 14 1 | 24 20 43 | | MAR | 22 5 11. | 22 14 24 |
| 4 11 21 | APRIL | 23 2 45 | 23 3 46 | 5 4 47 | APRIL | 20 17 55 | 21 4 36 |
| | MAY . | 22 15 29 | 22 10 34 | | May . | 20 6 39 | 20 16 28 |
| | June . | 21 4 13 | 20 18 9 | | June . | 18 19 23 | 19 2 11 |
| | July . | 20 16 57 | 20 3 39 | | July . | 18 8 7 | 18 10 52 |
| | Aug | 19 5 41 | 18 15 54 | | Aug | 16 20 51 | 16 19 22 |
| | SEPT | 17 18 25 | 17 7 15 | | SEPT | 15 9 35 | 15 4 31 |
| | Ост | 17 7 9 | 17 1 16 | | Ocr | 14 22 19 | 14 14 50 |
| | Nov | 15 19 53 | 15 20 44 | | Nov | 13 11 3 | 13 2 35 |
| | DEC | 15 8 37 | 15 16 1 | | Dec | 12 23 47 | 12 15 54 |
| 1620. | JAN | 13 21 21 | 14 9 28 | 1617. | Jan | 11 12 31 | 11 6 36 |
| D. | FEB | 12 10 5 | 13 0 7 | A.G. | FEB | 10 1 15 | 9 22 25 |
| | MAR | 13 22 49 | 14 11 89 | | MAR | 10 13 59 | 10 14 47 |
| 4 17 10 | APRIL | 12 11 33 | 12 20 36 | 4 10 36 | APRIL | 9 2 43 | 9 6 57 |
| | MAY . | 12 0 17 | 12 8 51 | | MAY . | 8 15 27 | 8 22 5 |
| | June . | 10 13 1 | 10 10 31 | | June . | 7 4 11 | 7 11 41 |
| | July . | 10 1 45 | 9 17 43 | | July . | 6 16 55 | 6 23 39 |
| | Aug | 8 14 29 | 8 2 27 | | Aug | 5 5 89 | 5 10 22 |
| | SEPT | 7 3 13 | 6 13 36 | | SEPT | 3 18 23 | 3 20 31 |
| | Ocr | 6 15 57 | 6 3 40 | | Oct | 3 7 7 | 3 6 39 |
| | Nov | 5 4 41 | 4 20 28 | | Nov | 1 19 51 | 1 17 13 |
| | DEC | 4 17 25 | 4 15 13 | | DEC | $\begin{cases} 1 & 8 & 35 \\ 30 & 21 & 19 \end{cases}$ | 1 4 18 30 15 58 |

| A pril. d. h. m. 4 16 25 | AN PEB APRIL MAY . JUNE . | d. h. m. 29 10 3 27 22 48 29 11 32 28 0 16 | d. h. m. 29 4 19 27 17 35 29 7 50 | B.C. 1613. | Jan | d. h. m. | d. h. m. |
|---------------------------|-------------------------------|--|---|--------------------|--------|---|---------------------|
| April. d. h. m. 4 16 25 A | MAR APRIL | 29 11 32 | į. | | JAN | 27 1 13 | 27 10 47 |
| d. h. m. 4 16 25 A | APRIL | | 29 7 50 | C.B. | FEB | 25 13 57 | 25 19 55 |
| 4 16 25 A | APRIL | 28 0 16 | - 1 | April. | MAR | 26 2 42 | 26 8 45 |
| J | 1 | | 27 22 53 | d. h. m. 4 9 51 | APRIL | 21 15 26 | 24 11 6 |
| J | T773770 | 27 13 0 | 27 14 17 | | MAY . | 24 4 10 | 23 19 3 |
| 1 | . ano | 26 1 44 | 26 5 22 | | June. | 22 16 54 | 22 4 41 |
| | JULY . | 25 14 28 | 25 19 37 | | JULY . | 22 5 38 | 21 16 51 |
| 1 4 | Aug | 24 3 12 | 24 8 51 | | Âug | 20 18 22 | 20 7 55 |
| | SEPT | 22 15 56 | 22 21 10 | | SEPT | 19 7 6 | 19 1 31 |
| | Эст | 22 4 40 | 22 8 48 | | Ocr | 18 19 50 | 18 20 31 |
| 1 | Nov | 20 17 24 | 20 19 58 | | Nov | 17 8 31 | 17 15 25 |
| I | DEC | 20 . 6 8 | 20 6 41 | | DEC | 16 21 18 | 17 8 48 |
| Te | JAN | 18 18 52 | 18 17 4 | 1612. | Jan | 15 10 2 | 15 28 28 |
|] 1 | FEB | 17 7 36 | 17 3 22 | Α. | FEB | 13 22 46 | 14 11 18 |
| 3 | Mar | 18 20 21 | 18 14 8 | | Mar | 15 11 30 | 15 20 36 |
|) | APRIL | 17.9 5 | 17 1 58 | 4 15 40 | APRIL | 14 0 14 | 14 4 7 |
| | MAY . | 16 21 49 | 16 15 17 | | MAY . | 13 12 58 | 13 10 52 |
|] [3 | June . | 15 10 33 | 1 5 6 8 | ,, | June . | 12 1 42 | 11 17 53 |
| | JULY. | 14 23 17 | 14 22 1 | , | July. | 11 14 26 | 11 2 20 |
| J. | Aug | 13 12 1 | 13 14 13 | | Aug | 10 3 10 | 9 13 9 |
| | Sept | 12 . 0 45 | 12 6 0 | | SEPT | 8 15 54 | 8 3 3 |
| 1 1 | Ост | 11 13 29 | 11 20 47 | | Ост | 8 4 38 | 7 19 54 |
|] [: | Nov | 10 2 13 | 10 10 17 | | Nov | 6 17 22 | 6 14 52 |
| | Dec | 9 14 57 | 9 22 22 | 1 | DEC | 6 6 6 | 6 10 28 |
| | Jan | 8 3 41 | 8 9 4 | 1611. | JAN. | 4 18 50 | 5 4 59 |
| .D. | FEB | 6 16 25 | 6 18 34 | G. | FEB | 3 7 34 | 3 21 3 |
| | MAR | 8 5 9 | 8 3 20 | | MAR. | 4 20 19 | 5 10 4 |
| 5 4 3 | APRIL | 6 17 53 | 6 12 3 | 4 21 29 | APRIL | 3 9 3 | 3 20 8 |
| | MAY . | 6 6 37 | 5 21 41 | | MAY . | 2 21 47 | 3 4 5 |
| 1 | Јиме. | 4 19 21 | 4 9 1 | | | | 1 10 55 |
| 1 | JULY, | 485 | 3 22 40 | | JUNE. | $ \begin{cases} 1 & 10 & 31 \\ 80 & 23 & 15 \end{cases} $ | 1 10 55 30 17 48 |
| 1 | AUG | 2 20 49 | 2 14 31 | | JULY . | 30 11 59 | 30 1 44 |
| | Sept | $\begin{cases} 1 & 9 & 33 \\ 30 & 22 & 17 \end{cases}$ | 1 7 54 | | Aug | 29 0 43 | 28 11 42 |
| 1 | Oct | 30 11 1 | $ \begin{cases} 1 & 1 & 47 \\ 30 & 18 & 55 \end{cases} $ | | SEPT | 27 13 27 | 27 0 21 |
| 1 1 | Nov. | 28 23 45 | 29 10 25 | | Ocr. | 27 2 11 | 26 15 51 |
| 1 | Dec. | 28 12 29 | 28 23 44 | | Nov. | 25 14 55 | 25 9 43 |
| | | 10 40 | 20 20 44 | | DEC | 25 . 3 39 | 25 4 46 |

2

| Mean Vernal Equinox. | Month. | Mean .New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New - Moon. |
|-------------------------------|---------------------------|---|--|-------------------------------|------------------------------|--|---|
| B.C. 1610. F. April. | JAN FEB MAR | d. h. m. 23 16 28 22 5 17 23 17 52 | d. h. m. 23 23 28 22 16 25 | B.C. 1607. B. April. | Jan Feb | d. h. m. 20 7 33 18 20 17 | d. h. m. 20 2 11 18 14 39 |
| d. h. m. 5 3 18 | APRIL MAY. JUNE. JULY. | 22 6 36 21 19 20 20 8 4 19 20 48 | 24 6 43 22 18 6 22 3 11 20 10 54 19 18 20 | d. h. m. 4 20 44 | Mar April May. June. July. | 20 9 2 18 21 46 18 10 30 16 23 14 16 11 58 | 20 4 8 18 18 35 18 9 48 17 1 10 16 16 6 |
| | Aug Sept Oct Nov | 18 9 32 16 22 16 16 11 0 14 28 44 | 18 2 28 16 12 6 15 23 47 14 13 43 | , | Aug Sept Oct Nov | 15 0 42 13 13 26 13 2 10 11 14 54 | 15 6 9 18 19 11 13 7 28 11 18 55 |
| 1609. E.D. | JAN FEB MAR | 14 12 28 13 1 12 11 13 56 12 2 40 | 14 5 42 12 23 6 11 16 53 12 9 56 | 1606. `^. | JAN FEB MAR | 11 3 38 9 16 22 8 5 6 9 17 50 | 11 5 51 9 16:15 8:2 18 9 12 28 |
| 4 9 7 | APRIL MAY . JUNE . JULY . | 10 15 24 10 4 8 8 16 52 8 5 86 | 11 1 12 10 14 12 9 1 2 8 10 21 | 5 2 88 | APRIL MAY. JUNE. JULY. | 8 6 84 7 19 18 6 8 2 5 20 46 | 7 28 25 7 11 46 6 1 47 5 17 17 |
| | Aug SEPT Oct Nov | 6 18 20 5 7 4 4 19 48 3 8 32 | 6 19 3 5 4 0 4 13 50 3 0 56 | | Aug. Sept. Out. | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 4 9 87 8 1 59 2 17 87 |
| 1608. c. | DEC | 2 21 16 { 1 10 0 { 30 22 44 | 2 13 23 1 3 12 30 18 14 | 1605. | Nov | 30 12 26 30 1 10 28 13 54 | 1 8 0 80 20 54 80 8 15 28 18 10 |
| | FEB | { 1 11 29 81 0 13 | 1 10 9 81 2 18 | 4 8 22 | FEB MAR APRIL | 27 2 88 27 15 23 26 4 7 | 27 '3 1 27 11 27 25 20 17 |
| 4 14 56 | MAY . JUNE . JULY . Aug | 29 12 57 29 1 41 27 14 25 27 -8. 9 25 15 58 | 29 17 57 29 8 21 27 21 21 27 8 53 25 19 30 | | MAY . JUNE . JULY . AUG SEPT | 25 16 51 24 5 85 28 18 19 22 7 8 20 19 47 | 25 6 82 23 18 56 23 9 48 22 2 42 20 20 41 |
| | SEPT OCT Nov DEC | 24 .4 37 23 17 21 22 .6 .5 21 18 49 | 24 5 50 28 16 20 22 8 11 21 14 26 | | Oct Nov Dec | 20 8 81 18 21 15 18 9 59 | 20 14 82 19 7 8 18 21 89 |

| Mean Vernal Equinox. | Month. | Mean New : Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Monn New Moon. | True New Moon, |
|--|--|--|---|---|--|--|--|
| B.C. 1604, E. April, d. h. m. 4 14 11 | JAN., FEB,. MAR | d. h. m. 16 22 43 15 11 27 17 0 12 15 12 56 | d. h. m. 17 9 46 15 19 40 17 8 58 15 11 12 | B.C. 1801, B.A. April, d. h. m. 4 7 87 | JAN FEB MAR APRIL | d. h. m. 14 18 54 13 2 88 18 15 22 12 4 6 | d. h. m. 14 18 6 18 11 57 14 8 81 12 16 18 |
| | MAY . JUNE . JULY . AUG SEPT OCT Nov | 15 1 40 13 14 24 13 3 8 11 15 52 10 4 36 9 17 20 8 6 4 | 14 18 86 18 8 12 12 14 0 11 8 40 9 20 18 9 14 49 8 9 45 | | JUNE . JULY . AUG SEPT OCT Nov | 11 16 50 10 5 81 9 18 18 8 7 2 6 19 46 6 8 80 4 21 14 | 12 2 29 10 10 10 9 18 25 8 2 15 6 11 14 5 21 58 4 19 46 |
| 1603. D. 4 20 0 | DEC. , JAN FEB MAR APRIL | 7 18 48 6 7 32 4 20 16 6 9 0 4 21 44 | 8 4 26 6 20 82 5 9 46 6 20 9 5 4 21 | 1600. a. 4 18 26 | DRC JAN FEB MAR APRIL | 4 9 58 2 22 42 1 11 26 8 0 10 1 12 54 | 4 1 41 2 18 15 1 11 45 8 5 5 1 21 18 |
| | MAY, JUNE. JULY. Aug SEPT OCT Nov DEC | 4 10 28 2 28 12 2 11 56 1 0 40 30 13 24 29 2 8 28 14 52 27 3 86 26 16 20 | $\begin{array}{c} 4 \ 11 \ 16 \\ 2 \ 17 \ 58 \\ 2 \ 1 \ 86 \\ 31 \ 11 \ 12 \\ 29 \ 28 \ 36 \\ 28 \ 15 \ 5 \\ 28 \ 9 \ 11 \\ 27 \ 4 \ 41 \\ 26 \ 28 \ 54 \\ \end{array}$ | | MAY . JUNE . JULY . AUG SEPT OCT NOV | \$\begin{pmatrix} 1 & 1 & 88 & 80 & 14 & 22 & 20 & 8 & 6 & 28 & 15 & 50 & 27 & 4 & 84 & 25 & 17 & 18 & 25 & 6 & 2 & 28 & 18 & 46 & 46 & 46 & 46 & 46 & 46 & 46 & 4 | 1 11 22 80 28 20 20 9 80 28 18 86 27 8 84 25 18 6 24 28 80 28 11 24 |
| 1602, c. 5 1 49 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 25 5 4 23 17 48 25 6 33 28 19 17 23 8 1 21 20 45 21 9 29 19 22 13 18 10 57 17 28 41 16 12 25 16 1 9 | 25 17 15 24 7 44 25 19 10 24 4 2 28 11 17 21 18 8 21 1 27 19 10 25 17 21 46 17 11 54 16 4 88 15 23 10 | 1599. F. 4 19 15 | DEC JAN FEH MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov, . DEC | 21 20 14 20 8 58 21 21 48 20 10 27 19 28 11 18 11 55 18 0 89 16 18 28 15 2 7 14 14 51 18 8 85 12 16 19 | 28 0 22 21 14 88 20 5 47 21 21 89 20 18 81 20 4 88 18 18 20 18 6 54 16 18 12 15 4 53 14 15 28 18 2 12 12 18 11 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox, | Month. | Mean New Moon. | True New Moon. |
|--|--------|---|-----------------------|----------------------------|--------|---|--|
| B.C. 1598. | Jan | d. h. m. | d. h. m. 11 0 28 | B.C. 1595. | Jan | d. h. m. | d. h. m. |
| E. | FEB. | 9 17 47 | 9 12 16 | A. | FEB. | 6, 8 57 | 6 19 5 |
| April. | MAR. | 11 6 31 | 11 0 54 | April. | MAR. | 7 21 41 | 8 3 54 |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | APRIL | 9 19 15 | 9 14 37 | d. h. m. 4 18 30 | APRIL | 6 10 25 | 6 11 23 |
| | MAY . | 9 7 59 | 9 5 21 | 1 10 00 | MAY. | 5 28 9 | 5 18 29 |
| | June . | 7.20 43 | 7 20 44 | ., | June . | 4 11 53 | 4 2 17 |
| | July. | 7. 9 27 | 7 12 5 | | July . | 4 0 37 | 8 11 51 |
| | Aug | 5.22 11 | 6 2 53 | | Aug | 2, 13 21 | |
| | SEPT. | 4 10 55 | 4 16 44 | | zzod | | $\left\{ egin{array}{cccc} 2 & 0 & 6 \ 31 & 15 & 20 \end{array} \right]$ |
| | Ocr | 3, 23 39 | 4 5 36 | | SEPT | $\begin{cases} 1 & 2 & 5 \\ 30 & 14 & 49 \end{cases}$ | 30 9 10 |
| | Nov. | 2 12 23 | 2 17 38 | | Ост. | 30, 3 33 | 30 4 25 |
| | | | | | Nov. | 28, 16 17 | 28 23 31 |
| | DEC | $\begin{cases} 2 & 1 & 7 \\ 31 & 13 & 51 \end{cases}$ | 2 4 55 31 15 30 | | DEC | 28, 5, 1 | 28 16 52 |
| 1597. | JAN. | 30. 2 35 | 30 1 27 | 1594. | JAN. | 26 17 45 | 27 7 33 |
| D.C. | FEB | 28.15 19 | 28 11 14 | G. | FEB | 25 6 29 | 25 19 12 |
| | MAR | 29. 4 4 | 28 21 28 | | MAR. | 26 19 14 | 27 4 18 |
| 4 6 58 | APRIL | 27 16 48 | 27 8 50 | 5 0 19 | APRIL | 25, 7 58 | 25 11 89 |
| | MAY . | 27, 5 32 | 26 21 51 | | May. | 24 20 42 | 24 18 18 |
| | June . | 25, 18 16 | 25 12 40 | | JUNE . | 28, 9 26 | 28 1 21 |
| 43 | JULY . | 25. 7 0 | 25 4 50 | | JULY . | 22 22 10 | 22 9 58 |
| | Aug | 23, 19 44 | 23 21 32 | | Aug | 21 10 54 | 20 20 53 |
| | SEPT | 22. 8 28 | 22 13 53 | | SEPT | 19 23 38 | 19 10 54 |
| | Ост | 21, 21, 12 | 22 5 12 | | Oct | 19 12 22 | 19 8 52 |
| | Nov | 20 ,9 56 | 20 19 2 | | Nov | 18 1 6 | 17 22 51 |
| | DEC | 19 22 40 | 20 7 9 | | DEC | 17 13 50 | 17 18 23 |
| 1596. | JAN | 18 11 24 | 18 ⁻ 17 89 | 1593. | JAN | 16 2 34 | 16 12 47 |
| в. | FEB | 17, 0 8 | 17 · 2 48 | F.E. | FEB | 14, 15 18 | 15 · 4 41 |
| | MAR | 18 12 53 | 18 11 7 | | Mar | 15, 4 8 | 15 17 88 |
| 4 12 41 | APRIL | 17 1 37 | 16 19 25 | 4 6 8 | April | 18 16 47 | 14 8 88 |
| | MAY . | 16 14 21 | 16 4 42 | | MAY . | 13, 5 31 | 18 11 20 |
| | June . | 15, 8 5 | 14 15 53 | | JUNE . | 11, 18 15 | 11 18 25 |
| | July . | 14 15 49 | 14 5 32 | | JULY. | 11, 6 59 | 11 1 27 |
| | Aug | 13, 4 33 | 12 21 35 | | Aug | 9 19 48 | 9 9 89 |
| d r stra | SEPT. | 11, 17, 17 | 11 15 22 | , | Sept | 8 8 27 | 7 19 52 |
| . (| Oct | 11 6 1 | 11 9 40 | | Oct | 7 21 11 | 7 8 38 |
| | Nov | 9 18 45 | 10 3 13 | | Nov | 6 9 55 | 6 0 7 |
| | DEC | 9 7 29 | 9 18 56 | | DEC | 5 22 30 | 5 17 47 |
| . , | | | | | | | |

| | | · | | | | 7 | and the state of the same |
|--|--|--|---|--|--|--|--|
| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean Now Moon. | True New Moon. |
| B.C. 1592: De April. d. h. m. 4 11 56 | JAN. FED. MAR. APRIL MAY JUNE , JUNE , OCT. NOV. | d. h. m. 4.11 23 3 0 7 4.12 51 3 1 35 2.14 19 {1 3 3 3 30 15 47 30 4 31 28 17 15 27 5 59 26 18 43 25 7 27 24.20 11 | d. h. m. 4 12 32 3 6 56 4 23 37 3 13 46 3 1 12 1 10 27 30 18 24 30 2 11 28 10 41 26 20 37 26 8 25 24 22 13 24 13 51 | B.C. 1589. A.G. April d. h. m. | JAN FEB MAR APRIL MAY - JUNE - JULY - AUG SEPT OCT NOV DEC | d. h. m. { 2. 2 83 81 15 17 { 1 4 1 80 16 45 29 5 20 28 18 18 27 6 57 26 19 41 25 8 25 23 21 9 23 9 58 21 22 87 21 11 21 | d. h. m. 1 28 7 81 10 22 29 22 14 80 11 7 20 1 10 28 16 14 27 7 47 26 23 7 25 13 45 21 8 25 23 16 6 22 8 50 21 14 48 |
| 1591. c, | JAN FEB MAR | 23. 8 55 21.21 39 23.10 24 | 23 6 45 22 0 3 23 16 46 | 1588. F, | JAN. FEB | 20, 0 5 18.12 49 20, 1 84 | 20 0 47 18 10 22 19 20 2 |
| 4 17 45 | APRIL MAY JUNE JULY AUG | 21 23 8 21 11 52 20 0 36 19 13 20 18 2 4 | 22 7 54 21 21 2 20 8 11 19 17 55 18 3 6 | 4 11 12 | APRIL MAY JUNE JULY AUG | 18 14 18 18 8 2 16 15 46 16 4 80 14 17 14 | 18 6 29 17 18 29 16 8 22 16 0 0 14 16 44 |
| ***** | SEPT OCT Nov DEC | 16 14 48 16 3 32 14 16 16 14 5 0 | 16 12 30 15 22 39 14 9 48 13 22 3 | | SEPT OCT Nov DEC | 135 58 12.18 42 117 26 10. 20 10 | 13 9 88 18 1 49 11 16 87 11 5 41 |
| 1590. B. 4 23 34 | JAN. FEB MAR APRIL | 12 17 44 11 6 28 12 19 13 11 7 57 | 12 11 24 11 1 50 12 17 9 11 8 56 | 1587. E. 4 17 1 | JAN FEB MAR | 9. 8 54 7. 21 88 9. 10 22 | 9 16 55 8 2 82 9 10 58 |
| *************************************** | MAY JUNE JULY AUG | 10 20 41 9 9 25 8 22 9 7 10 53 | 11 0 26 9 15 4 9 4 24 7 16 30 | | APRIL MAY JUNE JULY | 7 28 6 7 11 50 6 0 84 5 18 18 | 7 18 57 7 8 27 5 18 29 5 1 49 |
| | Sept Oct Nov Dec | 5 23 37 | 6 3 41 5 14 30 4 1 17 3 12 8 | | Aug Oct | 4 2 2 2 14 46 { 2 3 80 81 16 14 | 8 16 47 2 9 59 2 4 22 81 22 40 |
| | | 10 | 0 12 0 | | Nov DEC | 80. 4 58 29 17 42 | 80 15 82 80 6 7 |

6

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|-------------------------------|-------------------------------|---|---|-------------------------------|-------------------------------|--|---|
| B.C. 1586. D. | JAN Feb | d. h. m. 28 6 26 26 19 10 | d. h. m. 28 18 5 27 3 43 | B.C. 1583. G. | JAN FEB | d. h. m. 24 21 36 23 10 20 | d. h. m. 25 1 35 23 19 7 |
| April. d. h. m. 4 22 49 | MAR APRIL MAY. JUNE. | 28 7 55 26 20 39 26 9 23 24 22 7 | 28 11 38 26 18 41 26 1 55 24 10 25 | April. d. h. m. 4 16 16 | Mar April May. June. | 24 23 5 23 11 49 23 0 33 21 13 17 | 25 10 83 23 23 18 23 9 87 21 18 12 |
| | JULY . Aug Sept | 24 10 51 22 23 35 21 12 19 | 23 21 16 22 11 5 21 3 48 | | JULY . Aug Sept | 21 2 1 19 14 45 18 3 29 | 21 2 9 19 10 23 17 19 42 |
| | Nov Dec | 21 1 3 19 13 47 19 2 31 | 20 22 38 19 18 6 19 12 33 | | Nov Dec | 17 16 18 16 4 57 15 17 41 | 17 6 38 15 19 24 15 10 0 |
| 1585. c.B. | JAN FEB MAR | 17 15 15 16 3 59 16 16 44 | 18 4 36 16 17 41 17 3 54 | 1582. F. | JAN FEB MAR | 14 6 25 12 19 9 14 7 54 12 20 38 | 14 2 6 12 19 4 14 11 59 18 8 54 |
| 4 4 38 | MAY . JUNE . JULY . Aug | 15 5 28 14 18 12 18 6 50 12 19 40 11 8 24 | 15 11 55 14 18 44 13 1 26 12 9 9 10 18 54 | 4 22 5 | APRIL MAY . JUNE . JULY . Aug | 12 9 22 10 22 6 10 10 50 8 23 34 | 12 18 5 11 6 18 10 16 52 9 2 23 |
| | SEPT OCT Nov DEC | 9 21 8 9 9 52 7 22 36 7 11 20 | 9 7 28 8 23 3 7 17 11 7 12 38 | | SEPT OCT Nov DEC | 7 12 18 7 1 2 5 13 46 5 2 30 | 7 11 55 6 21 50 5 8 93 4 20 10 |
| 1584. | JAN FEB MAR | 6 0 4 4 12 48 6 1 32 | 6 7 44 5 0 54 6 15 13 | 1581. E.D. | JAN FEB MAR | 3 15 14 2 3 58 2 16 42 | 3 8 47 1 22 21 2 13 1 |
| 4 10 27 | April May . June . | 4 14 16 4 3 0 2 15 44 | 5 2 31 4 11 22 2 18 41 | 4 3 54 | April May . | $ \begin{cases} 1 & 5 & 26 \\ 80 & 18 & 10 \end{cases} $ $ 80 & 6 & 54 $ | 1 4 22 80 19 58 80 11 9 |
| Y | July . Aug Sept | \begin{cases} 2 & 4 & 28 \\ 81 & 17 & 12 \\ 80 & 5 & 56 \\ 28 & 18 & 40 \end{cases} | 2 1 39 31 9 17 29 18 32 28 6 4 | | JUNE . JULY . AUG SEPT | 28 19 38 28 8 22 23 21 6 25 9 50 | 29 1 20 28 14 16 27 2 8 25 13 22 |
| | Oct Nov Dec | 28 7 24 26 20 8 26 8 52 | 27 20 14 26 12 49 26 7 8 | | Oct Nov Dec | 24 22 34 23 11 18 23 0 2 | 25 0 19 28 11 9 22 21 59 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|---------------------------|--|---|----------------------------------|---------------------------|---|--|
| B.C. 1580. c. | Jan Feb | d. h. m. 21, 12, 46 20, 1, 30 | d. h. m. 21, 8 52 19 20 5 | B.C. 1577. _{G.F.} | JAN Feb | d. h. m. 19 3 56 17 16 40 | d. h. m. 19 16 35 18 3 14 |
| April. d. h. m. 4 9 42 | MAR APRIL MAY . JUNE . | 21 14 15 20 2 59 19 15 43 18 4 27 | 21 8 8 19 21 21 19 11 51 18 8 15 | April. d. h. m. 4 3 9 | MAR APRIL MAY. | 18 5 25 16 18 9 16 6 58 | 18 11 46 16 19 0 16 1 54 |
| | JULY . AUG SEPT OCT | 17 17 11 16 5 55 14 18 39 14 7 23 | 17 18 56 16 10 14 15 0 43 | | June . July . Aug Sept | 14 19 37 14 8 21 12 21 5 11 9 49 | 14 9 36 13 19 10 12 7 30 10 22 55 |
| 1579. | Nov Dec | 12 20 7 12 ,8 51 | 14 14 9 13 2 31 12 13 50 | | Oct Nov Dec | 10 22 33 9 11 17 9 .0 1 | 10 16 57 9 12 22 9 7 34 |
| В. | Jan. Feb | 10 21 35 9 10 19 10 23 4 | 11 0 11 9 ·9 45 10 19 2 | 1576. E. | Jan Feb Mar | 7, 12 45 6 1 20 7 14 14 | 8 0 57 6 15 29 8 2 59 |
| 4 15 81 | APRIL MAY . JUNE . JULY . | 9 11 48 9 0 32 7 13 16 7 2 0 | 9 4 44 8 15 41 7 4 30 6 19 21 | 4 8 58 | APRIL MAY . JUNE . JULY . | 6 2 58 5 15 42 4 4 26 3 17 10 | 6 11 54 5 19 8 4 1 45 3 8 53 |
| | Aug Sept Oct Nov | 5 14 44 4 8 28 3 16 12 2 4 56 | 5 11 46 4 4 57 3 21 53 2 13 39 | | Aug Sept Oct | \$\begin{cases} 2 & 5 & 54 \ 81 & 18 & 38 \ 30 & 7 & 22 \ 29 & 20 & 6 \end{cases}\$ | 1 17 36 31 4 46 29 18 55 29 11 54 |
| 1578. | DEC. | 1 17 40 31 6 24 | 2 3 45 31 15 52 | | Nov Dec | 28 .8 50 27 21 34 | 28 6 50 28 2 14 |
| A. | JAN FEB MAR | 29 19 8 28 7 52 29 20 36 | 30 · 2 8 28 10 54 29 18 48 | 1575. D. | Jan Feb Mar | 26 10 18 24 23 2 26 11 46 | 26 20 23 25 12 9 27 0 58 |
| 4 21 20 | MAY . JUNE . JULY . | 28 9 20 27 22 4 26 10 48 25 23 32 | 28 2 44 27 11 45 25 22 48 25 12 29 | 4 14 47 | APRIL MAY . JUNE . JULY . | 25 0 30 24 13 14 23 1 58 22 14 42 | 25 10 51 24 18 50 23 1 55 22 9 13 |
| ٠ | Aug Sept Oct Nov | 24 12 16 23 1 0 22 13 44 21 2 28 | 24 4 46 22 22 54 22 17 37 21 11 29 | | Aug Sept Oct Nov | 21 3 26 19 16 10 19 4 54 17 17 38 | 20 17 43 19 4 9 18 17 2 17 8 25 |
| | DEC | 20 15 12 | 21 3 21 | | Dec | 17 6 22 | 17 1 48 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|---|--|--|----------------------------|---|---|---|
| B.C. 1574. | JAN | d. h. m. 15 19 6 | d. h. m. 15 20 11 | B.C. 1571 | Jan | d. h. m. 12 10 16 | d. h. m. 12 7 41 |
| C. April. d. h. m. 4 20 35 | FEB MAR APRIL MAY . JUNE . | 14 7 50 15 20 85 14 9 19 13 22 3 12 10 47 | 14 14 12 16 6 40 14 20 43 14 8 15 12 17 48 | April. d. h. m. 4 14 2 | FEB MAR APRIL MAY . JUNE . | 10 23 0 12 11 45 11 0 29 10 13 13 9 1 57 | 10 18 25 12 5 43 10 18 2 10 7 43 8 22 42 |
| | JULY . AUG SEPT OCT Nov DEC | 11 28 31 10 12 15 9 0 59 8 13 43 7 2 27 6 15 11 | 12 2 1 10 10 11 8 19 4 8 5 17 6 17 8 6 6 45 | | JULY . AUG SEPT OCT Nov DEC | 8 14 41 7 3 25 5 16 9 5 4 58 8 17 87 3 6 21 | 8 14 27 7 6 15 5 21 29 5 11 44 4 0 51 3 12 44 |
| 1573, B.A. | JAN FEB MAR | 5 '3 55 3 16 39 4 5 23 | 4 21 57 3 14 18 4 · 7 6 | 1570. E. | JAN | { 1 19 5 81 7 49 | 1 23 30 31 9 15 |
| 4 2 21 | MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{c} 2 \ 23 \ 27 \\ 2 \ 14 \ 31 \\ \end{array}$ $\left\{\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4 19 51 | MAR APRIL MAY JUNE. JULY. AUG SEPT OCT NOV DEC | 1 20 38 81 9 17 29 22 1 29 10 45 27 23 29 27 12 18 26 0 57 21 18 41 24 2 25 22 15 9 22 8 58 | 1 18 21 81 8 29 29 18 30 29 1 11 27 15 0 27 6 51 25 28 57 24 17 28 21 10 5 28 1 14 22 14 22 |
| 1572. G. | JAN FEB MAR | 28 ,1 27 21 14 11 23 , 2 56 | 22 19 30 21 · 9 18 23 0 4 | 1569. D.C. | Jan Feb | 20 16 37 19 5 21 19 18 6 | 21 1 27 19 10 44 19 18 49 |
| 4 8 13 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 21 15 40 21 4 24 19 17 8 19 5 52 17 18 36 16 7 20 15 20 4 14 8 48 13 21 32 | 21 15 27 21 6 53 19 21 43 19 11 31 18 0 11 16 11 58 15 28 15 14 10 14 18 21 1 | 4 1 40 | MAR APRIL MAY JUNE JULY AUG SEPT OCT NOV DEC | 18 6 50 17 19 84 16 8 18 15 21 2 14 9 46 12 22 30 12 11 14 10 23 58 10 12 42 | 18 2 26 17 10 88 15 20 29 15 8 49 18 28 56 12 17 25 12 12 12 11 6 48 10 28 54 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|---------------------|--------------------------------|------------------------------|----------------------------|-----------------|---|-----------------------------|
| B.C. 1568. | Jan. | d. h. m. 9 1 26 7 14 10 | d. h. m. 9 14 28 | B.C. 1565. F.E. | Jan | d. h. m. | d. h. m. 6 14 51 |
| April. d. h. m. 4 7 28 | FEB MAR APRIL | 9 2 55 7 15 39 | 8 2 18 9 11 40 7 19 18 | April. d. h. m. 4 0 55 | MAR | 5 5 20 5 18 5 4 6 49 | 5 8 59 6 2 13 4 17 26 |
| | MAY . June . | 7 4 23 5 17 7 | 7 2 8 5 9 15 | , | MAY . June . | 3 19 33 2 8 17 | 4 6 14 2 16 46 |
| | JULY . | 5 5 51 3 18 35 | 4 17 46 3 4 42 | | July . | $\begin{cases} 1 & 21 & 1 \\ 31 & 9 & 45 \end{cases}$ | 2 1 41 31 10 1 |
| ı | SEPT | 2 7 19 | 1 18 38 1 11 31 | | Aug. | 29 22 29 | 20 18 80 |
| | Oct. | 31 8 47 | 31 6 32 | | SEPT | 28 11 18 27 28 57 | 28 4 18 27 15 24 |
| | Nov. : | 29 21 31 20 10 15 | 30 2 7 29 20 33 | | Nov Dec | 26 12 41 26 1 25 | 26 4 4 25 18 19 |
| 1567. | JAN. FEB. | 27 22 59 26 11 48 | 23 12 33 27 1 27 | 1564. | JAN FEB | 24 14 9 23 2 58 | 24 9 58 28 2 16 |
| 4 13 17 | MAR APRIL | 28 0 27 26 13 11 | 28 11 29 26 19 23 | 4 6 44 | Mar | 21 15 87 28 4 21 | 24 18 45 28 10 29 |
| | MAY . June . | 26 1 55 24 14 39 | 26 2 9 24 8 56 | | MAY . June . | 22 17 5 21 5 49 | 28 0 45 21 13 17 |
| | JULY . Aug | 24 3 23 22 16 7 | 23 16 49 22 2 46 | | July . | 20 18 83 | 21 0 19 19 10 27 |
| | SEPT | 21 4 51 20 17 35 | 20 15 29 20 7 8 | | SEPT | 17 20 1 17 8 45 | 17 20 24 17 6 89 |
| | Nov Dec | 19 6 19 18 19 3 | 19 1 14 18 20 31 | | Nov | 15 21 29 15 10 18 | 15 17 28 15 4 57 |
| 1566. G. | JAN FEB | 17 7 47 | 17 15 22 | 1563. c. | Jan | 18 22 57 | 18 17 7 |
| 4 19 6 | MAR. | 15 20 31 17 9 16 15 22 0 | 16 8 21 17 22 32 | | FEB MAR | 12 11 41 14 0 26 | 12 6 9 13 20 9 |
| | MAY . JUNE . | 15 10 44 | 16 9 47 15 18 40 | 4 12 33 | APRIL May. | 12 13 10 12 1 54 | 12 11 8 12 2 26 |
| , | July. | 13 23 28 13 12 12 | 14 2 9 13 9 21 | | JUNE. JULY. | 10 14 38 1 10 3 22 | 10 17 41 10 8 14 |
| | Aug | 12 0 56 10 13 40 | 11 17 17 10 2 49 | | Aug Sept | 8 16 6 7 4 50 | 8 21 44 7 10 18 |
| | Nov | 8 15 8 | 9 14 32 8 4 40 | 01() | Oct. Nov. | 6 17 34 5 .6 18 | 6 21 58 5 9 14 |
| | DEC. | 8 3 52 | 7 21 1 | • • | DEC. | 4 19 2 | 4 20 7 |

| Mean Vernal Equinox. | Month. | Menn New : Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|---|----------------------|----------------------------|---------|---|----------------------|
| B.C. 1562. | JAN. | d. h. m. 3 7 46 | d. h. m. 3 6 44 | B.C. 1559. | JAN | d. h. m. 29.11 40 | d. h. m. 30 0 48 |
| В. | FEB. | 1 20 30 | 1 17 9 | Ε. | FEB. | 28 0 24 | 28 11 14 |
| April. $d. h. m.$ | Mar. | 3. 9 15 | 3 3 50 | April. d. h. m. | Mar | 29 13 9 | 29 19 30 |
| 4 18 21 | APRIL | 1 21 59 | 1 15 17 | 4 11 48 | Arril | 23 1 53 | 28 2 30 |
| | | (1.10 43 | 1 4 4 | | MAY . | 27 14 37 | 27 9 17 |
| | Max . | $80\ 23\ 27$ | 30 18 19 | | June . | 26 3 21 | 25 16 58 |
| | June. | 29.12 11 | 29 9 49 | | JULY .: | 25 16 5 | 25 2 33 |
| (0) | July. | 29, 0 55 | 29 1 51 | | Aug | 21 .4 49 | 23 15 6 |
| | Aug | 27. 13 39 | 27 17 43 | | SEPT | 22 17 33 | 22 6 30 |
| | SEPT | 26, 2 23 | 26 8 49 | | Ocr | 22. 6 17 | 22 0 50 |
| | Oct. | 25.15 7 | 25 22 44 | | Nov | 20,19 1 | 20 20 21 |
| | Nov. | 24, 3 51 | 21 11 22 | | DEC | 20. 7 45 | 20 15 33 |
| | DEC | 23 16 35 | 23 22 41 | | | | |
| 4 | 220, 1 | | | 1558. | JAN | 18 20 29 | 19 8 51 |
| 1561. | JAN | 22, 5 19 | 22 8 46 | , D. | FEB | 17. 9 13 | 17 23 15 |
| A.G. | FEB | 20.18/3 | 20 17 55 | , | Mar | 18 21 57 | 19 10 35 |
| | Mar | 21 6 47 | 21 2 41 | 4 17 37 | APRIL | 17 10 41 | 17 19 22 |
| 4 0 10 | APRIL | 19. 19 31 | 19 11 56 | , | May . | 16 23 25 | 17 2 33 |
| | MAY . | 19 8 15 | 18 22 32 | | June . | 15.12 9 | 15 9 14 |
| | JUNE . | 17. 20 59 | 17 11 11 | | July . | 15 0 58 | 14 16 81 |
| | JULY . | 179 43 | 17 2 6 | | Aug. | 13 13 37 | 13 1 27 |
| | Aug. | 15 22 27 | 15 18 49 | | SEPT | 12. 2 21 | 11 12 48 |
| | SEPT | 14 11 11 | 14 12 29 | | Oct | 11, 15 5 | 11 3 2 |
| | Ocr | 13 23 55 | 14 5 55 | | Nov | 10, 3 49 | 9 20 1 |
| | Nov | 12 12 39 | 12 22 8 | | DEC | 9 16 33 | 9 14 47 |
| | DEC | 12 1 23 | 12 12 22 | | | | 0.050 |
| | | 1 | | 1557. c.b. | JAN. | 8 5 17 | 8 9 56 |
| 1560. | JAN | 10 14 7 | 11 0 23 | 0.6 | FEB. | 6 18 1 | 7 3 54 |
| F. | FEB | 9, 2 51 | 9 10 27 | | MAR. | 7 6 46 | |
| | Mar | 10 15 36 | 10 18 51 | 3 23 25 | APRIL: | 5 19 30 | 1 |
| 4 5 59 | APRIL | 9 4 20 | 9 2 21 | | MAY. | 5. 8 14 | |
| | MAY . | 8 17 4 | 8 10 2 | | June . | 3, 20 58 | |
| | June . | 7, 5.48 | 6 18 52 | | JULY . | 3 9 42 | |
| 1, | JULY . | 6 18 32 | 6 5 51 | 1 | Aug | $ \begin{cases} 1 & 22 & 26 \\ 81 & 11 & 16 \end{cases} $ | |
| | Aug | 5 7 16 | 4 19 37 | | | | |
| 1 . | SEPT | 3 20 0 | 3 12 8 | | SEPT | 1 | |
| ٠. | Oct | 3. 8 44 | 3 6 35 | | Oct | 29. 12. 39 | |
| | Nov. | 1 21 28 | 2 1 38 | | Nov. | 28, 1, 22 | |
|) | DEC. | $\begin{cases} 1 & 10 & 12 \\ 30 & 22 & 50 \end{cases}$ | | | Dec. | . 27, 14 | 27 9 48 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|------------|----------------------|----------------------|----------------------------|--------------|---|----------------------|
| B.C. 1556. | Jan. | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| A. | FEB. | | | 1553. E.D. | JAN | 23.18 0 | 28 16 10 |
| April. | | 24.15 34 | 24 21 19 | April. | FEB | 22. 6 44 | 22 2 23 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | MAR. | 26 4 18 | 26 13 32 | d. h. m. | MAR. | 22.19 28 | 22 13 5 |
| 4 9 14 | APRIL | 24 17 2 | 25 3 33 | 3 22 41 | Arril | 21 8 12 | 21 0 54 |
| | MAY . | 24. 5 46 | 24 15 14 | | MAY. | 20 20 56 | 20 14 17 |
| | June. | 22.18 30 | 23 0 59 | | JUNE . | 19 9 40 | 19 5 12 |
| | JULY. | 22. 7 14 | 22 9 43 | | JULY . | 18.22 24 | 18 21 11 |
| | Aug | 20, 19 58 | 20 18 19 | | Aug | 17 11 8 | 17 13 28 |
| | SEPT | 19 .8 42 | 19 8 85 | | SEPT | 15 23 52 | 16 5 18 |
| | Ост | 18, 21 26 | 18 14 2 | | Ocr | 15 12 36 | 15 20 7 |
| | Nov | 17. 10 10 | 17 1 53 | | Nov | 14. 1 20 | 14 9 35 |
| | DEC. | 16.22 54 | 16 15 13 | | DEC | 13.14 4 | 18 21 86 |
| 1555. G. | JAN | 15. 11 38 | 15 5 56 | 1552. | JAN | 12 2 48 | 12 8 11 |
| 4. | FEB. | 14. 0 22 | 13 21 42 | . C. | FEB | 10.15 32 | 10 17 23 |
| | MAR. | 15.13 7 | 15 14 0 | . ' | MAR | 12 4 17 | 12 2 13 |
| 4 11 3 | APRIL | 14 1 51 | 14 6 4 | 4 4 29 | APRIL | 10 17 1 | 10 10 52 |
| | MAY . | 13 14 35 | 13 21 7 | | MAY . | 10 5 45 | 9 20 31 |
| | JUNE. | 12 3 19 | 12 10 39 | | June . | 8 18 20 | 8 7 59 |
| | JULY. | 11.16 3 | 11 22 33 | | JULY. | 8 7 13 | 7 21 47 |
| | Aug | 10 4 47 | 10 9 21 | | Aug | 6 19 57 | 6 13 47 |
| | SEPT | 8 17 31 | 8 19 35 | | SEPT | 5 8 41 | 5 7 19 |
| | Oct | 8 6 15 | 8 5 50 | | Ocr | 4 21 25 | 5 1 14 |
| | Nov. | 6 18 59 | 6 16 27 | | Nov | 3.10 9 | 3 18 28 |
| 1. | DEC. | 6 7 48 | 6 3 33 | | DEC | 2 22 58 | 3 9 48 |
| 1554. F. | JAN FEB | 4 20 27 3 9 11 | 4 15 12 | 1551. | Jan | { 1 11 37 31 0 21 | 1 22 59 31 9 51 |
| | MAR. | 4 21 56 | 3 3 30 4 16 43 | В. | _ | (- 0 - 1 | J. U UI |
| 4 16 52 | 1 | 3 10 40 | 3 6 54 | | FEB | | |
| | MAY. | 2 23 24 | 2 21 58 | | MAR | $ \left\{ \begin{array}{cccc} 1 & 13 & 6 \\ 31 & 1 & 50 \end{array} \right. $ | 1 18 50 31 2 31 |
| | JUNE . | 1 12 8 | 1 13 21 | 4 10 18 | | , | |
| | JULY. | (1, 0.52 | 1 4 27 | ± 10 10 | APRIL MAY | 29 14 84 29 3 18 | 29 9 51 28 17 50 |
| | Jours. | 30 13 36 | 30 18 43 | | June . | 27 16 2 | 27 3 36 |
| | Aug | 29 2 20 | 29 8 1 | | JULY . | 27 4 46 | 26 15 57 |
| 1 | SEPT | 27. 15 4 | 27 20 24 | | Aug. | 25 17 30 | 25 7 14 |
| | Ост | 27. 3 48 | 27 8 4 | | SEPT. | 24 6 14 | 24 1 0 |
|) ' | Nov | 25 16 32 | 25 19 13 | | Oct. | 23 18 58 | 23 20 6 |
| | DEC | 25, 5 16 | 25 5 58 | | Nov. | 22 7 42 | |
| | | | | | DEC. | 21 20 26 | |
| | | ' | | | | 21 20 26 | 22 8 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|--|---|----------------------------|--------|--|----------------------|
| B.C. 1550. | Jan | d. h. m. 20 9 10 | d. h. m. 20 22 42 | B.C. 1547. | JAN | d. h. m. 17 0 20 | d. h. m. 16 22 33 |
| Α. | FEB | 18 21 54 | 19 10 20 | р. | FEB | 15 13 4 | 15 16 15 |
| April. $d. h. m.$ | Mar | 20 10 38 | 20 19 26 | April. $d. h. m.$ | MAR | 17 1 48 | 17 9 7 |
| 4 16 7 | APRIL | 18 23 22 | 19 2 51 | 4 9 34 | APRIL | 15 14 32 | 16 0 14 |
| | MAY . | 18 12 6 | 18 9 32 | | MAY . | 15 3 16 | 15 13 6 |
| | June . | 17 0 50 | 16 16 38 | | JUNE . | 13 16 0 | 18 28 58 |
| | July . | 16 13 31 | 16 1 14 | | JULY. | 13 4 44 | 13 9 12 |
| | Aug | 15 2 18 | 14 12 16 | | Aug | 11 17 28 | 11 17 58 |
| | SEPT | 13 15 2 | 13 2 22 | | SEPT. | 10 6 12 | 10 3 2 |
| | Ост. | 13 .3 46 | 12 19 26 | | Ост | 9 18 56 | 9 13 1 |
| | Nov | 11 16 30 | 11 14 30 | | Nov. | 8 7 40 | 8 0 13 |
| | DEC | 11 5 14 | 11 10 4 | | DEC | 7 20 24 | 7 12 43 |
| 1549. | JAN | 9 17 58 | 10 4 26 | 1546. | JAN | 698 | 6 2 32 |
| G.F. | FEB | 8 6 42 | 8 20 17 | C. | FEB | 4 21 52 | 4 17 32 |
| | MAR | 8 19 27 | 9 9 4 | | MAR | 6 10 37 | 6 9 22 |
| 3 21 56 | APRIL | 7 8 11 | 7 18 58 | 4 15 22 | APRIL | 4 23 21 | 5 1 27 |
| } | MAY. | 6 20 55 | 7 2 48 | | MAY . | 4 12 5 | 4 17 0 |
| | JUNE . | 5 9 39 | 5 9 38 | | June . | 8 0 49 | 3 7 24 |
| | July . | 4 22 23 | 4 16 33 | | July . | 2 13 33 | 2 20 19 |
| | Aug | 3 11 7 | 3 0 39 | | | 1 2 17 | 1 7 52 |
| | SEPT | 1 23 51 | $\begin{cases} 1 & 10 & 48 \\ 30 & 23 & 40 \end{cases}$ | | Aug | $\begin{bmatrix} 30 & 15 & 1 \\ 29 & 3 & 45 \end{bmatrix}$ | 30 18 34 29 4 59 |
| | Ост | $ \begin{cases} 1 & 12 & 35 \\ 31 & 1 & 19 \end{cases} $ | 30 15 21 | | SEPT | 28 16 29 | 28 15 83 |
| | Nov | 29 14 3 | 29 9 18 | | Nov | 27 5 13 | 27 2 26 |
| | DEC | 29 .2 47 | 20 4 20 | | Dec | 26 17 57 | 26 13 40 |
| 1548. | JAN | 27 15 31 | 27 22 54 | 1545. | JAN | 25 .6 41 | 25 1 22 |
| E. | FEB | 26 .4 15 | 26 15 39 | В.А., | FEB | 23 19 25 | 28 18 47 |
| | MAR | 27 17 0 | 28 5 44 |] | Mar | 24 8 9 | 24 3 11 |
| 4 3 45 | APRIL | 26 5 44 | 26 16 57 | 3 21 11 | APRIL | 22 20 53 | 22 17 38 |
| | MAY . | 25 18 28 | 26 1 56 | | MAY . | 22 9 37 | 22 8 51 |
| | JUNE . | 24 7 12 | 24 9 39 | | June . | 20 22 21 | 21 0 15 |
| | July . | 23 19 56 | 23 17 10 | | JULY . | 20 11 5 | 20 15 12 |
| | Avg | 22 8 40 | 22 1 25 | | Aug | 18 23 49 | 19 5 17 |
| | SEPT | 20 21 24 | 20 11 15 | | SEPT | 17 12 39 | 17 18 24 |
| | Oct | 20 10 8 | 19 23 6 | | Oct | 17 1 17 | 17 6 39 |
| | Nov | 18 22 52 | 18 13 9 | | Nov | 15 14 1 | 15 18 10 |
| | DEC | 18 11 36 | 18 5 11 | | DEC | 15 .2 45 | 15 5 8 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|---|--|--|---|--|--|---|
| | JAN FEB MAR APRIL MAY . JUNE . JULY . OCT NOV DEC JAN FEB MAR AFRIL MAY . JUNE . JUNE . JUNE . JULY . AUG SEPT OCT | Moon. 13 15 29 12 4 13 13 16 58 12 5 42 11 18 26 10 7 10 9 19 54 8 8 38 6 21 22 6 10 6 4 22 50 4 11 34 3 0 18 1 13 2 8 1 47 1 14 31 { 1 8 15 80 15 59 29 4 43 28 17 27 27 6 11 25 18 55 25 .7 30 | Moon. d. h. m. 13 15 21 12 1 19 13 11 25 11 22 22 11 10 44 10 0 50 9 16 27 8 8 54 7 1 19 6 16 59 5 7 22 4 20 12 8 7 25 1 17 12 8 1 56 { 1 10 16 30 19 7 30 5 25 28 17 59 28 9 1 27 2 3 25 20 9 25 14 3 | B.C. 1541. D.C. April. d. h. m. 3 20 27 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC JAN FEB MAR APRIL MAY . JUNE . JUNE . JULY . AUG SEPT | Moon. d. h. m. 11 6 39 9 19 23 10 8 8 8 20 52 8 9 36 6 22 20 6 11 4 4 23 48 3 12 32 3 1 16 1 14 0 {1 2 44 80 15 28 29 4 12 27 16 56 29 5 41 27 18 25 27 7 9 25 19 53 25 8 87 28 21 21 22 10 5 21 22 49 | |
| | Nov DEC | 23 20 23 23 .9 7 | 24 6 35 23 20 58 | | Nov Dec | 20 11 83 20 .0 17 | 20 4 11 19 22 48 |
| 1542. E. 4 14 38 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 20 12 8 20 0 47 18 13 81 18 2 15 16 14 59 15 3 43 14 16 27 13 5 11 | 22 8 53 20 18 36 22 2 40 20 9 54 19 17 19 18 2 0 17 13 0 16 2 53 14 19 37 14 14 22 13 9 40 13 3 55 | 1539. A. 4 8 4 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 18 18/1 17 .1 45 18 14 29 17 8 18 16 15 57 15 4 41 14 17 25 13 6 9 11 18 53 11 7 87 9 20 21 9 9 5 | 18 17 84 17 11 14 19 2 86 17 15 12 17 1 15 15 9 84 14 17 11 13 1 10 11 10 18 10 21 11 9 10 8 9 1 6 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|------------------------|----------------------|----------------------------|--------|----------------------|--|
| B.C. | Т | d. h. m. | d. h. m. | B.C. | T | d. h. m. 4 12 59 | d. h. m. |
| 1538. _G . | JAN | | | 1535. c. | JAN | | 4 14 37 |
| April. | FEB | 6 10 33 | 6 11 7 | April. | FEB | 3 1 43 | 3 0 30 |
| d. h. m. | MAR. | 7 23 18 | 8 4 20 | d. h. m. | MAR | 4 14 28 | 4 10 13 |
| 4 13 53 | APRIL | 6 12 2 | 6 20 19 | 4 7 20 | APRIL | 3 3 12 | 2 20 22 |
| | MAY . | 6 0 46 | 6 10 20 | | MAY . | 2 15 56 | $\begin{bmatrix} 2 & 7 & 45 \\ 81 & 20 & 52 \end{bmatrix}$ |
| | June. | 4 13 30 | 4 22 13 | | June . | § 1 4 40 | |
| 1 | July. | 4 2 14 | 4 8 21 | | | (30 17 24 | 30 11 49 |
| | Aug | 2 14 58 | 2 17 30 | | JULY. | 30 6 8 | 30 4 4 |
| | SEPT | $\int_{0.010}^{1} 342$ | 1 2 34 | | Aug | 23 18 52 | 28 20 51 |
| | DLI I | 30 16 26 | 30 12 15 | | SEPT | 27 , 7 36 | 27 13 16 |
| | Ocr | 30 . 5 10 | 29 22 53 | | Oct | 26 20 20 | 27 4 35 |
| | Nov | 28 17 54 | 23 10 41 | | Nov | 25 9 4 | 25 18 22 |
| | DEC | 28 6 38 | 27 23 41 | | DEC. | 21 21 48 | 25 6 28 |
| 1537. | JAN | 26 19 22 | 26 13 50 | 1534. | JAN | 23 10 32 | 23 16 44 |
| F.E. | FEB | 25 8 6 | 25 5 1 | в. | FEB | 21 23 16 | 22 1 43 |
| | MAR | 25 20 51 | 25 20 48 | | MAR. | 23 12 1 | 23 9 57 |
| 3 19 42 | APRIL | 24 9 35 | 21 12 35 | 4 13 8 | Arril | 22 0 45 | 21 18 13 |
| | MAY . | 23 22 19 | 24 3 40 | | MAY . | 21 13 29 | 21 3 33 |
| | JUNE . | 22 11 3 | 22 17 29 | | June . | 20 2 13 | - 19 14 50 |
| | JULY . | 21 23 47 | 22 5 55 | | JULY . | 19 14 57 | 19 4 40 |
| | Aug | 20 12 31 | 20 17 15 | | Aug. | 18 3 41 | 17 20 54 |
| | SEPT | 19 1 15 | 19 4 1 | | SEPT | 16 16 25 | 16 14 49 |
| | OCT | 18 18 59 | 18 14 40 | | Ocr. : | 16 5 9 | 16 9 11 |
| | Nov | 17 2 43 | 17 1 26 | | Nov | 14 17 58 | 15 2 42 |
| | DEC | 16 15 27 | 16 12 25 | | DEC | 14 6 37 | 14 18 19 |
| 1536. | JAN | 15 4 11 | 14 23 30 | 1533. | JAN. | 12 19 21 | 13 7 27 |
| υ. | FEB | 13 16 55 | 13 11 21 | A.G. | FEB | 1i 8 5 | 11,18 6 |
| | MAR. | 15 5 39 | 14 23 59 | | MAR. | 11 20 49 | 12 2 45 |
| 4 1 31 | APRIL | 13 18 23 | 13 13 39 | .3 18 57 | Arrit | 10 9 83 | 10 10 8 |
| | MAY . | 13 7 7 | 18 4 25 | | MAY . | 9 22 17 | 9 17 13 |
| l | June. | 11 19 51 | 11 19 48 | | JUNE . | 8 11 1 | 8 1 4 |
| | July . | 11 8 95 | 11 11 14 | | JULY . | 7 23 45 | 7 10 47 |
| | Aug | 9 21 19 | 10 2 3 | | Aug | 6 12 29 | 5 23 14 |
| 1 | SEPT. | 8 10 3 | 8 15 57 | | SEPT | 5 1 18 | 4 14 41 |
| | Oct | 7 22 47 | 8 4 52 | | Ocr | 4 13 57 | 4 8 41 |
| | Nov | 6 11 31 | 6 16 55 | | Nov | 3 2 41 | 3 4 2 |
| 5. | DEC | 6 0 15 | 6 4 10 | | DEC. | 2 15 25 | 2 28 4 |
| | | 1 | | | | 3 | 1. |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox, | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|--|---------------------------|----------------------------|--------|---|----------------------|
| B.C. 1532. | Jan. | d. h. m. 1 4 9 30 16 53 | d. h. m. 1 16 18 31 .6 44 | B.C. 1529. | Jan | d. h. m. 28 ·8 3 | d. h. m. 28 6 8 |
| F. ' | _ | (00 10 00 | 01 /0 11 | April. | FEB | 26 20 47 | 26 23 21 |
| | FEB | | | d. h. m. | MAR | 27 9 32 | 27 15 54 |
| April. | MAR., | $\begin{cases} 1 & 5 & 3S \\ 30 & 18 & 22 \end{cases}$ | 1 18 13 31 3 7 | 3 18 13 | APRIL | 25 22 16 | 26 6 55 |
| d. h. m. | | ζ, | | | MAY. | 25 11 0 | 25 19 57 |
| 4 0 46 | APRIL | 29 7 6 | 29 10 23 | | JUNE . | 23 23 44 | 24 7 3 |
| | MAY . | 28 19 50 | 28 16 59 | 1 | JULY. | 23 12 28 | 23 16 49 |
| | June . | 27 8 34 | 27 0 6 | | Aug | 22 1 12 | 22 2 5 |
| | July. | 26 21 18 | 26 8 49 | | SEPT | 20 13 56 | 20 11 36 |
| | Aug. | 25 10 2 | 24 20 1 | | Ост | 20 2 40 | 19 21 52 |
| | SEPT. | 23 22 46 | 23 10 17 | | Nov | 18 15 24 | 18 9 5 |
| | Ocr | 23 11 30 | 23 3 24 | | DEC | 18 4 8 | 17 21 21 |
| | Nov. | 22 0 14 | 21 22 29 | 1500 | ~ | 10 10 10 | 40.40.44 |
| | DEC | 21 12 58 | 21 17 59 | 1528. | JAN | 16 16 52 | 16 10 41 |
| 1531, | JAN | 20 1 42 | 20 12 11 | | FEB | 15 5 36 | 15 1 4 |
| E | FEB | 18 14 26 | 19 3 54 | | MAR | 16 18 20 | 16 16 20 |
| | MAR. | 20 3 10 | 20 16 31 | 4 0 1 | APRIL | 15 7 4 | 15 8 1 |
| 4 6 35 | APRIL | 18 15 54 | 19 2 20 | | MAY . | 14 19 48 | 14 23 29 |
| | MAY . | 18 4 38 | 18 10 10 | | June. | 13 8 32 | 13 14 5 |
| | June. | 16 17 22 | 16 17 5 | | JULY. | 12 21 16 | 13 3 24 |
| | JULY. | 16 6 6 | 16 0 14 | | Aug | 11 10 0 | 11 15 82 |
| | Aug | 14 18 50 | 14 8 35 | | SEPT | 9 22 44 | 10 2 48 |
| | SEPT | 13 7 34 | 12 18 59 | | Ocr | 9 11 28 | 9 13 41 |
| | Oct | 12 20 18 | 12 7 59 | | Nov | 8 .0 12 | 8 0 30 |
| | Nov. , | 11 9 2 | 10 23 35 | | DEC | 7 12 56 | 7 11 20 |
| | DEC | 10 21 46 | 10 17 19 | 1527. | JAN | 6 1 40 | 5 22 17 |
| 1530. | JAN. | 9 10 30 | 9 12 2 | G. | FEB. | 4 14 24 | 4 9 29 |
| D, | FeB. | 7 23 14 | 8 6 17 | | MAR. | 6 8 9 | 5 21 18 |
| | MAR. | 9 11 59 | 9 22 49 | 4 5 50 | APRIL | 4 15 53 | 4 10 8 |
| 4 12 24 | | 8 0 43 | 8 12 45 | | MAY. | 4 4 37 | 4 0 12 |
| | MAY . | 7 13 27 | 8 0 2 | | June . | 2 17 21 | 2 15 18 |
| | JUNE. | 6 2 11 | 6 9 12 | | | 400 - | 2 6 53 |
| ŀ | JULY. | 5 14 55 | 5 17 11 | | July . | $\begin{cases} 2 & 6 & 3 \\ 31 & 18 & 49 \end{cases}$ | 81 22 18 |
| | Aug. | 4 3 39 | 4 1 4 | | Aug | 30 7 33 | 30 12 58 |
| | SEPT | 2 16 23 | 2 9 42 | | SEPT | 28 20 17 | 29 2 41 |
| | | (257 | 1 19 48 | | Oct. | 28 9 1 | 28 15 22 |
| | Ост. | 81 17 51 | 31 7 44 | | Nov. | 26 21 45 | 27 8 6 |
| | Nov. | 30 6 35 | 29 21 38 | | Dec. | 26 10 29 | 26 13 58 |
| | DEC. | 29 19 19 | 29 13 18 | | | | ™∩ TO 99 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--|--|---|--|--|---|--|
| B.C. 1526. F. April. d. h. m. 4 11 39 | JAN FEB MAR APRIL MAY . JUNE . | d. h. m. 24 28 18 28 11 57 25 0 42 28 18 26 28 2 10 21 14 54 | d. h. m. 24 23 52 23 9 21 24 18 56 23 5 24 22 17 26 21 7 27 | B.C. 1523. B. April. d. h. m. 4 5 6 | JAN FEB MAR APRIL MAY . | d. h. m. 21 14 28 20 8 7 21 15 52 20 4 36 19 17 20 | d. h. m. 22 3 55 20 16 45 22 2 46 20 10 38 19 17 25 |
| | JULY . AUG SEPT OCT NOV DEC | 21 14 34 21 3 38 19 16 22 18 5 6 17 17 50 16 6 34 15 19 18 | 2) 23 12 19 16 2 18 9 2 18 1 15 16 16 1 16 4 57 | | JUNE. JULY. AUG SEPT OCT NOV | 18 6 4 17 18 48 16 7 32 14 20 16 14 9 0 12 21 44 12 10 28 | 18 0 9 17 8 1 15 17 58 14 6 44 13 22 32 12 16 48 12 12 15 |
| 1525. E.D. | JAN FEB MAR | 14 8 2 12 20 46 13 9 32 | 14 16 4 13 1 31 13 9 52 | 1522. A. | Jan Feb Mar | 10 23 12 9 11 56 11 0 40 | 11 7 13 10 0 11 11 14 17 |
| 3 17 28 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 11 22 16 11 11 0 9 28 44 9 12 28 8 1 12 6 18 56 6 2 40 4 15 24 4 4 8 | 11 17 47 11 2 17 9 12 24 9 0 54 7 16 4 6 9 25 6 3 56 4 22 14 4 15 1 | 4 10 54 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov | 9 18 24 9 2 8 7 14 52 7 3 86 5 16 20 4 5 4 3 17 48 2 6 32 { 1 19 16 81 8 0 | 10 1 24 9 10 7 7 17 24 7 0 24 5 8 11 3 17 36 3 5 20 1 19 40 1 12 22 31 6 33 |
| 1524. c. | JAN FEB MAR | 2 16 52 1 5 86 2 18 19 1 7 3 | 3 5 26 1 17 18 3 2 33 1 10 25 | 1521. G.F. | Jan Feb Mar | 29 20 44 28 9 23 28 22 13 | 30 1 2 28 18 23 29 9 37 |
| 3 23 17 | MAY . JUNE . JULY . AUG SEPT OCT Nov | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 30 17 28 30 0 37 28 9 16 27 20 18 26 10 20 25 3 16 24 22 18 28 17 42 | 3 16 43 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov | 27 10 57 26 23 41 25 12 25 25 1 9 28 13 58 22 2 37 21 15 21 20 4 5 | 27 22 12 27 8 24 25 17 0 25 1 0 28 9 21 21 18 49 21 5 58 19 18 46 |
| | Dес | 23 1 33 | 23 12 2 | | DEC | 19 16 49 | 19 9 26 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|---|---|---|--|---|--|---|
| B.C. 1520. E. April. d. h. m. 8 22 32 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG | d. h. m. 18 5 38 16 18 17 18 7 2 16 19 46 16 8 30 14 21 14 14 9 58 12 22 42 | d. h. m. 18 1 31 16 18 23 18 11 11 17 2 58 16 17 4 15 5 12 14 15 46 18 1 27 | B.C. 1517. B.A. April. d. h. m. 3 15 58 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG | d. h. m. 15 20 48 14 9 27 14 22 11 18 10 55 12 28 89 11 12 28 11 1 7 9 18 51 | d. h. m. 15 28 17 14 8 45 14 17 56 18 8 85 12 14 85 11 8 81 10 18 28 9 11 2 |
| | SEPT OCT Nov DEC | 11 11 26 11 0 10 9 12 54 9. 1 38 | 11 10 59 10 21 1 9 7 49 8 19 28 | | SEPT Oct Nov DEC | 8 2 85 7 15 19 6 4 8 5 16 47 | 8 4 19 7 21 17 6 18 4 6 8 4 |
| 1519. D. 4 4 21 | JAN FEB MAR | 7.14 22 6. 3 6 7.15 50 | 7 8 4 5 21 39 7 12 11 | 1516. c. | JAN FEB MAR | 4 5 81 2 18 15 4 7 0 | 4 15 8 8 1 8 4 9 46 |
| 1 121 | APRIL MAY. JUNE. JULY. | 6 4 34 5 17 18 4 6 2 3 18 46 | 6 3 30 5 19 3 .4 10 11 4 0 22 | 8 21 47 | MAY . June . | $ \begin{cases} 2 & 19 & 44 \\ 2 & 8 & 28 \\ 81 & 21 & 12 \\ 80 & 9 & 56 \end{cases} $ | 2 17 86 2 1 80 81 10 85 29 21 46 |
| 1 | Aug Sept Oct Nov Dec | 2. 7 80 31 20 14 30. 8 58 29 21 42 28 10 26 | 2 18 19 { 1 1 15 80 12 33 29 28 38 28 10 24 | | July . Aug Sept Oct Nov | 29 22 40 23 11 24 27 0 8 23 12 52 25 1 86 | 29 11 89 28 4 8 26 22 24 26 17 10 25 11 0 |
| 1518. c. | JAN FEB MAR | 27 23 10 26 11 54 25 0 38 26 13 23 | 27 21 11 26 7 59 24 19 9 26 7 9 | 1515. F. | DEC JAN FEB MAR | 24 14 20 28 8 4 21 15 48 28 4 88 | 25 2 48 28 15 45 22 2 12 28 10 85 |
| 4 10 10 | MAY . JUNE . JULY . AUG | 25 2 7 24 14 51 28 8 35 22 16 19 21 5 8 | 24 20 22 24 10 53 23 2 21 22 18 6 21 9 28 | 4 3 36 | APRIL MAY. JUNE. JULY. | 21 17 17 21 6 1 19 18 45 19 7 29 | 21 17 42 21 0 85 19 8 22 18 18 7 |
| | SEPT OCT Nov Dec | 19 17 47 19 . 6 31 17 19 15 17 7 59 | 21 9 28 19 23 59 19 13 27 18 1 47 17 13 3 | | Aug Sept Oct Nov Dec | 17 20 18 16 8 57 15 21 41 14 10 25 18 23 9 | 17 6 41 15 22 19 15 16 80 14 12 0 14 7 7 |
| | | | | | , DEU, . | 10.20 8 | T# / / |

| Mean | | Mean | True | Mean | | Mean | True |
|--------------------|--------|--------------|--------------|--------------------|--------|--------------|--------------|
| Vernal Equinox. | Month. | New Moon. | New Moon. | Vernal Equinox. | Month. | New Moon. | New Moon. |
| B.C. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| 1514. E. | JAN | 12 11 53 | 13 0 20 | 1511. | JAN | 9 3 3 | 8 21 19 |
| April. | FEB | 11 0 37 | 11 14 38 | A. Amil | FEB | 7 15 47 | 7 13 38 |
| d. h. m. | MAR | 12 13 21 | 13 1 55 | April. $d. h. m.$ | MAR | 9 4 31 | 9 6 20 |
| 4 9 25 | APRIL | 11 2 5 | 11 10 40 | 4 2 51 | APRIL | 7 17 15 | 7 22 35 |
| | MAY . | 10 14 49 | 10 17 48 | | MAY . | 7 5 59 | 7 13 33 |
| | June . | 9 3 33 | 9 0 26 | | JUNE . | 5 18 43 | 6 2 46 |
| | July. | 8 16 17 | 8 7 40 | | JULY. | 5 7 27 | 5 14 15 |
| | Aug | 7 5 1 | 6 16 32 | | Aug | 3 20 11 | 4 0 32 |
| | SEPT | 5 17 45 | 5 3 56 | | SEPT | 2 8 55 | 2 10 19 |
| | Ост | 5 6 29 | 4 18 18 | | Ост | 5 1 21 39 | 1 20 16 |
| | Nov | 3 19 13 | 3 11 28 | | 001. | 31 10 23 | 81 6 44 |
| | DEC | 3 7 57 | 3 6 26 | | Nov | 29.23 7 | 29 17 57 |
| 1510 | Ļ | (1 20 41 | 2 1 45 | | DEC | 29 11 51 | 29 5 55 |
| 1513. | JAN | \\(\) 9 25 | 31 19 47 | 1510. | JAN | 28 0 35 | 27 18 44 |
| | FEB | 29 22 10 | (111119 | G. | FEB | 26 13 19 | 26 8 29 |
| | MAR | 30 10 54 | 30 23 50 | | MAR | 28 2 4 | 27 23 12 |
| 3 15 14 | APRIL | 28 23 38 | 29 9 33 | 4 8 40 | APRIL | 26 14 48 | 26 14 33 |
| | MAY . | 28 12 22 | 28 17 32 | | MAY . | 26 3 32 | 26 5 57 |
| | June . | 27 1 6 | 27 0 40 | | June. | 24-16-16 | 24 20 47 |
| | July . | 26 13 50 | 26 8 4 | | July . | 24 5 0 | 24 10 35 |
| | Aug | 25 2 34 | 24 16 43 | | Aug | 22 17 44 | 22 23 18 |
| | SEPT | 23 15 18 | 23 3 21 | | SEPT | 21 6 28 | 21 11 9 |
| | Ост | 23 4 2 | 22 16 24 | | Ост | 20-19 12 | 20 22 28 |
| | Nov | 21 16 46 | 21 7 55 | | Nov | 19 7 56 | 19 9 29 |
| . | DEC | 21 · 5 30 | 21 1 20 | | DEC | 18-20 40 | 18 20 14 |
| 1512. | JAN | 19 18 14 | 19 19 28 | 1509. | JAN | 17. 9 24 | 17 6 50 |
| в. | FEB | 18 6 58 | 18 13 32 | F.E. | FEB | 15-22 8 | 15 17 30 |
| | MAR | 19 19 48 | 20 5 48 | | MAR., | 16-10 58 | 16 4 48 |
| 3 21 3 | APRIL | 18 8 27 | 18 19 42 | 8 14 29 | APRIL | 14 23 37 | 14 17 2 |
| | MAY. | 17 21 11 | 18 7 6 | | MAY . | 14 12 21 | 14 6 45 |
| | June . | 16 9 55 | 16 16 30 | | June . | 13 1 5 | 12 21 47 |
| | JULY. | 15 22 39 | I6 0 50 | | July. | 12 13 49 | 12 13 35 |
| | Aug | 14 11 23 | 14 9 7 | | Aug | 11 .2 33 | 11 5 29 |
| | SEPT | 13 0 7 | 12 18 9 | | SEPT | 9 15 17 | 9 20 46 |
| | Oct | 12 12 51 | 12 4 29 | · | Oct | 9 4 1 | 9 11 8 |
| | Nov | 11 1 33 | 10 16 27 | | Nov | 7 16 45 | 8 0 8 |
| | DEC | 10 14 19 | 10 6 8 | | DEC | 7 5 29 | 7 12 0 |
| | | | | | | J | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon, | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon, |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|----------------------|--|
| B.C. 1508. | Jan. | d. h. m. 5 18 13 | d. h. m. 5 22 40 | B.C. 1505. | Jan | d. h. m. 3 9 23 | d. h. m. 3 20 1 |
| D, | FEB. | 4 6 57 | 4 8 17 | A.G. | FEB | 1 22 7 | 2 11 47 |
| April. | MAR. | 5 19 41 | 5 17 17 | | 7.5 | (2 10 51 | 3 0 29 |
| d. h. m. 3 20 18 | APRIL | 4 8 25 | 4 2 21 | April. | MAR. | \(\)31 23 35 | |
| 0 20 10 | MAY . | 3 21 9 | 3 12 22 | d. h. m. 3 13 44 | APRIL | 30 12 19 | $\begin{cases} 1 & 10 & 19 \\ 80 & 18 & 5 \end{cases}$ |
| | JUNE. | 2 9 53 | 2 0 9 | 0 40 44 | MAY. | 30 1 3 | 80 0 50 |
| | 00 | (12237 | 1 14 6 | | June. | 28 13 47 | 23 7 42 |
| | July. | 31 11 21 | 31 6 4 | | JULY. | 28 2 31 | 27 15 48 |
| | Aug. | 30 0 5 | 29 23 19 | | Aug. | 26 15 15 | 26 1 52 |
| | SEPT. | 28 12 49 | 28 16 50 | | SEPT. | 25 8 59 | 24 14 48 |
| 1 | Oct. | 28 1 33 | 28 9 32 | | Oct. | 24 16 43 | 21 6 39 |
| | Nov. | 26 14 17 | 27 0 37 | | Nov. | 23 5 27 | 23 0 50 |
| | DEC. | 26 3 1 | 26 13 37 | | Dec. | 22 18 11 | 22 20 5 |
| | | 20 0 1 | 20 20 01 | | 2200 | | 22 20 |
| 1507. | JAN | 24 15 45 | 25 0 33 | 1504. | JAN | 21 6 55 | 21 14 49 |
| Q. | FEB | 23 4 29 | 23 9 41 | F. | FEB | 19 19 89 | 20 7 85 |
| | MAR. | 24 17 14 | 24 17 37 | | Mar | 21 8 24 | 21 21 34 |
| 4 2 7 | APRIL | 28 5 58 | 23 1 10 | 3 19 33 | APRIL | 19 21 8 | 20 8 8 3 |
| | MAY . | 22 18 42 | 22 9 25 | | MAY . | 19 9 52 | 19 17 24 |
| 1 | JUNE. | 21 7 26 | 20 19 23 | | June. | 17 22 36 | 18 0 52 |
| | JULY . | 20 20 10 | 20 7 54 | | JULY. | 17 11 20 | 17 8 9 |
| | Aug | 19 8 54 | 18 23 13 | | Aug | 16 0 4 | 15 16 14 |
| | SEPT | 17 21 38 | 17 16 53 | | SEPT | 14 12 48 | 14 1 56 |
| | Ocr | 17 10 22 | 17 11 46 | | Oct | 14 1 32 | 13 13 49 |
| | Nov | 15 23 6 | 16 6 23 | | Nov | 12 14 16 | 12 4 6 |
| | DEC | 15 11 50 | 15 23 20 | | DEC | 12 3 0 | 11 20 81 |
| 1506. | JAM. | 14 0 34 | 14 13 44 | 1503. | Jan | 10 15 44 | 10 14 19 |
| . | FEB. | 12 13 18 | 13 1 20 | E. | FEB | 9 4 28 | 9 8 21 |
| | MAR. | 14 2 3 | 14 10 32 | | MAR | 10 17 12 | 11 1 25 |
| 4 7 56 | | 12 14 47 | 12 18 1 | 4 1 22 | APRIL | 9 5 56 | 9 16 29 |
| 1 | MAY . | 12 3 31 | 12 0 49 | | MAY . | 8 18 40 | 9 5 7 |
| | JUNE . | 10 16 15 | 10 7 59 | | JUNE . | 7 7 24 | 7 15 88 |
| | JULY . | 10 4 59 | 9 16 39 | | JULY . | 6 20 8 | 7 0 29 |
| | Aug | 8 17 43 | 8 3 47 | | Aug | 5 8 52 | 5 8 58 |
| - | SEPT. | 7 6 27 | 6 17 57 | | SEPT | 3 21 36 | 3 17 40 |
| | Ocr. | 6 19 11 | | | Ост | 3 10 20 | 3 3 27 |
| Ì | Nov. | 5 7 55 | 5 6 10 | | Nov. | 1 23 4 | 1 14 38 |
| | Drec. | 4 20 39 | 5 1 42 | | 7 | (11148 | 1 3 24 |
| | 1 | | | | DEC. | 31 0 32 | 30 17 4 0 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|----------------------|----------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m |
| 1502. | JAN | 29 13 16 | 29 9 12 | 1499. | JAN | 26 4 26 | 26 7 49 |
| D. | Fев | 28 2 0 | 28 1 31 | G. | Fев | 24 17 10 | 24 16 50 |
| A pril. d. h. m. | MAR | 29 14 44 | 29 17 55 | d. h. m. | MAR | 26 5 55 | 26 1 3 |
| 4 7 11 | APRIL | 28 3 28 | 28 9 32 | 4 0 37 | APRIL | 24 18 39 | 24 10 4 |
| | MAY. | 27 16 12 | 27 23 43 | | MAY . | 24 7 23 | 23 21 2 |
| | JUNE . | 26 4 56 | 26 12 13 | | JUNE . | 22 20 7 | 22 10 1 |
| | JULY. | 25 17 40 | 25 23 15 | | JULY . | 22 8 51 | 22 1 1 |
| | Aug | 24 6 24 | 24 9 28 | | Aug | 20 21 35 | 20 18 1 |
| | SEPT | 22 19 8 | 22 19 29 | | SEPT | 19 10 19 | 19 11 5 |
| | Oct | 22 7 52 | 22 5 49 | | Ост | 18 23 3 | 19 5 2 |
| | Nov | 20 20 36 | 20 16 43 | | Nov | 17 11 47 | 17 21 3 |
| | DEC | 20 9 21 | 20 4 10 | | DEC | 17 0 31 | 17 11 4 |
| 1501. c.b. | JAN | 18 22 6 | 18 16 21 | 1498. | JAN | 15 13 15 | 15 23 3 |
| 0.5. | FEB | 17 10 50 | 17 5 19 | F. | FEB | 14 1 59 | 14 9 2 |
| | Mar | 17 28 31 | 17 19 17 | | Mar | 15 14 44 | 15 17 4 |
| 8 13 0 | APRIL | 16 12 18 | 16 10 8 | 4 6 26 | APRIL | 14 3 28 | 14 1 |
| | MAY. | 16 1 2 | 16 1 31 | | MAY. | 13 16 12 | 13 8 4 |
| | June. | 14 13 46 | 14 16 46 | | June. | 12 4 56 | 11 17 4 |
| | July. | 14 2 30 | 14 7 19 | | JULY. | 11 17 40 | 11 4 5 |
| | Aug | 12 15 14 | 12 20 51 | | Aug | 10 6 24 | 9 18 4 |
| | SEPT | 11 8 58 | 11 9 23 | | SEPT | 8 19 8 | 8 11 8 |
| | Oct | 10 16 42 | 10 21 11 | | Oct | 8 7 52 | 8 6 8 |
| | Nov | 9 5 26 | 9 8 28 | | Nov | 6 20 36 | 7 1 15 |
| | DEC | 8 18 10 | 8 19 21 | | DEC | 6 9 20 | 6 19 1 |
| 1500. | JAN | 7 6 54 | 7 5 53 | 1497. | JAN | 4 22 4 | 5 11 |
| Λ. | FEB | 5 19 38 | 5 16 13 | E.D. | FEB. | 3 10 48 | 3 23 5 |
| | MAR | 7 8 22 | 7 2 49 | | MAR. | 3 23 32 | 4 10 |
| 3 18 49 | APRIL | 5 21 6 | 5 14 14 | 3 12 15 | APRIL | 2 12 16 | 2 18 1 |
| | MAY . | 5 9 50 | 5 3 3 | | 7.5 | (210 | 2 1 1 |
| | June . | 3 22 34 | 3 17 22 | | MAY . | (31 13 44 | 81 7 59 |
| | JULY. | 3 11 18 | 3 8 56 | | JUNE . | 30 2 28 | 29 15 46 |
| 1 | Aug | § 2 0 2 | 2 1 3 | | July. | 29 15 12 | 29 1 35 |
| | | 31 12 46 | 31 17 0 | | Aug | 28 3 56 | 27 14 18 |
| | SEPT | 30 1 30 | 30 8 7 | | SEPT | 26 16 40 | 26 6 4 |
| | Oct | 29 14 14 | 29 22 4 | | Ост | 26 5-24 | 26 0 24 |
| ĺ | Nov | 28 2 58 | 28 10 38 | | Nov | 24 18 8 | 24 19 57 |
| 1 | DEC | 27 15 42 | 27 21 51 | | DEC | 24 6 52 | 24 15 4 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--------------------------|--|--|----------------------------------|-------------------------------|---|--|
| B.C. 1496. c. | Jan Feb | d. h. m. 22 19 36 21 8 21 | d. h. m. 28 8 11 21 22 23 | B.C. 1493. _{G.F.} | Jan | d. h. m. 20 10 46 18 23 30 | d. h. m. 20 5 15 18 20 59 |
| April. d. h. m. 3 18 4 | MAR APRIL MAY . | 22 21 5 21 9 49 20 22 33 | 23 9 30 21 18 8 21 1 15 | April. d. h. m. 3 11 30 | FEB MAR APRIL MAY . | 19 12 15 18 0 59 17 13 43 | 19 13 12 18 5 10 17 20 8 |
| · | JUNE . JULY . AUG SEPT | 19 11 17 19 0 1 17 12 45 | 19 7 57 18 15 21 17 0 26 | | June . July . Aug | 16 2 27 15 15 11 14 3 55 | 16 9 36 15 21 34 14 8 22 |
| | Oct Nov Dec | 16 1 29 15 14 13 14 2 57 13 15 41 | 15 12 1 15 2 28 13 19 34 13 14 28 | | SEPT OCT Nov DEC | 12 16 39 12 5 23 10 18 7 10 6 51 | 12 18 40 12 5 1 10 15 41 10 2 40 |
| 1495. в. | JAN Feb Mar | 12, 4 25 10 17 9 12 5 54 | 12 9 27 11 ·3 14 12 18 85 | 1492. E. | JAN FEB MAR | 8 19 35 7 8 19 8 21 4 | 8 14 24 7 2 30 8 15 50 |
| 3 23 53 | APRIL MAY . JUNE . | 10 18 38 10, 7 22 8 20 6 | 11 7 2 10 16 52 9 0 56 | 3 17 19 | APRIL MAY . JUNE . | 7 9 48 6 22 32 5 11 16 | 7 6 0 6 21 1 5 12 26 |
| , | JULY . AUG SEPT | 8 8 50 6 21 34 5 10 18 4 23 2 | 8 8 19 6 16 1 5 0 59 4 11 50 | | July . Aug Sept | 5 0 0 3 12 44 2 1 23 | 5 3 32 3 17 51 2 7 11 1 19 86 |
| | Nov Dec | 3 11 46 3 0 30 | 3 0 56 2 16 15 | | Nov | \[\begin{array}{cccccccccccccccccccccccccccccccccccc | 1 19 86 31 7 19 29 18 27 29 5 4 |
| 1494. A. | JAN FEB | 6 1 14 42 | 31 3 7 | 1491. D. | JAN Feb | 27 17 8 26 5 52 | 27 15 16 26 1 28 |
| 4 5 4 | MAR 2 APRIL MAY | 29 16 10 | 30 2 32 | 3 23 8 | MAR APRIL MAY. June. | 27 18 36 26 7 20 25 20 4 24 8 48 | 27 12 2 25 23 53 25 13 18 24 4 18 |
| A delication of the state of th | JUNE JULY AUG. | 27 6 22 | 2 27 8 36 3 25 17 17 | | JULY . AUG SEPT | 24 8 46 23 21 32 22 10 16 20 23 0 | 23 20 22 22 12 46 21 4 40 |
| | SEPT. OCT. Nov. DEC. | 23 20 34 22 9 18 | 23 13 16 | | Oct Nov Dec | 20 11 44 19 0 28 18 13 12 | 20 19 29 19 8 55 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|----------------------|----------------------|
| B.C. 1490. | Jan | d. h. m. | d. h. m. | B.C. 1487. | Jan | d. h. m. | d. h. m |
| (;. | FEB | 15 14 40 | 15 16 31 | F. | FEB | 12 5 50 | 12 19 30 |
| April. | MAR. | 17 3 25 | 17 1 5 | April. | MAR. | 13 18 35 | 14 8 4 |
| d. h. m. 4 4 57 | APRIL | 15 16 9 | 15 9 42 | d. h. m. 3 22 23 | APRIL | 12 7 19 | 12 17 47 |
| ± ±0. | MAY. | 15 4 58 | 14 19 23 | 5 22 25 | MAY. | 11 20 3 | 12 1 3 |
| | JUNE. | 13 17 37 | 13 6 57 | | June . | 10 8 47 | 10 8 19 |
| | JULY. | 13 6 21 | 12 20 53 | | JULY. | 9 21 31 | 9 15 2 |
| | Aug | 11 19 5 | 11 13 5 | | Aug. | 8 10 15 | 7 23 34 |
| | SEPT. | 10 7 49 | 10 6 44 | | SEPT. | 6 22 59 | 6 9 5 |
| | Oct | 9 20 33 | 10 0 44 | | Ост | 6 11 43 | 5 23 |
| | Nov. | 8 9 17 | 8 17 52 | | Nov. | 5 0 27 | 4 14 5 |
| | DEC. | 7 22 1 | 8 9 11 | 1. | DEC. | 4 13 11 | 4 8 5 |
| | DEC. | . 22 1 | 0 0 11 | | DEC | 1 10 11 | |
| 1489. | JAN | 6 10 45 | 6 22 12 | 1486. | JAN | 3 1 55 | 8 3 5 |
| B.A. | FEB | 4 23 29 | 5 8 54 | E. | FEB | 1 14 39 | 1 22 1 |
| | MAR | 5 12 13 | 5 17 42 | | MAR | 3 3 23 | 3 14 5 |
| 3 10 46 | APRIL | 4 0 57 | 4 1 16 | 4 4 12 | APRIL | 1 16 7 | 2 4 4 |
| | MAY. | 8 13 41 | 8 8 33 | | 35 | 1 4 51 | 1 15 4 |
| | JUNE . | 2 2 25 | 1 16 36 | İ | MAY . | ₹30 17 35 | 31 0 4 |
| | т | (1159 | 1 2 30 | 1 | June . | 29 6 19 | 29 8 2 |
| | JULY . | (81 8 53 | 30 15 3 | | JULY . | 28 19 3 | 28 15 5 |
| | Aug | 29 16 37 | 29 6 34 | | Aug | 27 7 47 | 27 0 2 |
| | SEPT | 28 5 21 | 28 0 30 | | SEPT | 25 20 31 | 25 10 2 |
| | Oct | 27 18 5 | 27 19 40 | | Oct | 25 9 15 | 24 22 2 |
| | Nov | 26 6 49 | 26 14 31 | | Nov | 23 21 59 | 23 12 8 |
| | DEC | 25 19 83 | 26 7 33 | | DEC | 23 10 43 | 23 4 9 |
| 1488. | JAN | 24 8 17 | 24 21 53 | 1485. | JAN | 21 23 27 | 21 21 5 |
| G. | FEB | 22 21 1 | 23 9 19 | D.C. | FEB | 20 12 11 | 20 15 8 |
| | MAR | 24 9 46 | 24 18 16 | | MAR | 21 0 56 | 21 8 1 |
| 3 16 35 | APRIL | 22 22 30 | 23 1 31 | 3 10 1 | APRIL | 19 13 40 | 19 23 1 |
| | MAY . | 22 11 14 | 22 8 14 | | MAY . | 19 2 24 | 19 12 |
| | June . | 20 23 58 | 20 15 24 | | JUNE . | 17 15 8 | 17 22 4 |
| | JULY . | 20 12 42 | 20 0 7 | | JULY . | 17 3 52 | 17 8 |
| | Aug | 19 1 26 | 18 11 23 | | Aug | 15 16 36 | 15 16 5 |
| | SEPT | 17 14 10 | 17 1 43 | | SEPT | 14 5 20 | 14 2 |
| | Oct | 17 2 54 | 16 18 57 | | Oct | 13 18 4 | 13 12 1 |
| | Nov | 15 15 38 | 15 14 8 | | Nov | 12 6 48 | 11 28 8 |
| | DEC | 15 4 22 | 15 9 39 | | DEC | 11 19 32 | 11 12 |
| | | | | | | l _{so} | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--|---|---|---|---|---|---|
| B.C. 1484. B. April. d. h. m. 3 15 50 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov | d. h. m. 10 8 16 8 21 0 10 9 45 8 22 29 8 11 13 6 23 57 6 12 41 5 1 25 3 14 9 3 2 58 1 15 37 { 1 4 21 (30 17 5 | d. h. m. 10 1 52 8 16 48 10 8 35 9 0 35 8 16 4 7 6 25 6 19 18 5 6 52 3 17 39 3 4 9 1 14 47 1 1 41 30 12 53 | B.C. 1481. F.E. April. d. h. m. 3 9 16 | JAN FEB MAR API.YL MAY . JUNE . JULY . AUG SEPT Nov | d. h. m. 7 23 26 6 12 10 7 0 55 5 13 39 5 2 23 3 15 7 3 3 51 { 1 16 35 31 5 19 29 18 3 29 6 47 27 19 31 | d. h. m. 8 6 34 6 16 12 7 0 50 5 9 5 4 17 55 8 4 23 2 17 2 1 8 18 31 1 26 29 19 39 29 13 34 28 6 1 |
| 1483. A. | JAN FEB Mar | 29 5 49 27 18 33 29 7 17 | 29 0 31 27 12 53 29 2 15 | 1480. D. | JAN FEB | 27 8 15 25 20 59 24 9 43 | 27 20 15 26 8 1 24 17 33 |
| 3 21 89 | APRIL MAY . JUNE . JULY . | 27 20 1 27 8 45 25 21 29 25 10 13 | 27 16 41 27 7 54 25 23 20 25 14 20 | 8 15 5 | MAR APRIL MAY. JUNE. JULY. | 25 22 27 24 11 11 23 23 55 22 12 39 22 1 23 | 26 1 28 24 8 38 23 16 4 22 0 51 21 12 2 |
| | Aug Sept Oct Nov Dec | 28 22 57 22 11 41 22 0 25 20 13 9 20 1 53 | 24 4 28 22 17 37 22 5 53 20 17 25 20 4 16 | | Aug Sept Oct Nov Dec | 20 14 7 19 2 51 18 15 85 17 4 19 16 17 8 | 20 2 8 18 19 4 18 13 57 17 9 15 17 3 25 |
| 1482. G. | JAN FEB MAR APRIL | 18 14 37 17 3 21 18 16 6 | 18 14 28 17 0 19 18 10 22 | 1479. c. | Jan Feb Mar | 15 5 47 13 18 31 15 7 16 | 15 19 10 14 7 57 15 17 57 |
| | MAY . JUNE . JULY . AUG | 17 4 50 16 17 34 15 6 18 14 19 2 13 7 46 | 16 21 17 16 9 43 14 23 54 14 15 37 13 8 9 | 8 20 54 | APRIL MAY . JUNE . JULY . AUG | 13 20 0 13 8 44 11 21 28 11 10 12 9 22 56 | 14 1 51 13 8 39 11 15 24 10 23 15 9 9 14 |
| | SEPT Oct Nov | 11 20 30 11 9 14 9 21 58 | 12 0 39 11 16 22 10 6 43 | | SEPT Oct Nov | 9 22 56 8 11 40 8 0 24 6 13 8 | 9 9 14 7 22 5 7 14 0 6 8 23 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|---|--------|--|----------------------|
| B.C. 1478. | Jan | d. h. m. 4 14 36 | d. h. m. 4 22 56 | B.C. | | d. h. m. | d. h. m. |
| В. | FEB. | 3 3 21 | 3 15 55 | 1475. | JAN | $\begin{cases} 1 & 5 & 46 \\ 20 & 40 & 20 \end{cases}$ | ••• |
| April. | MAR. | 4 16 5 | 5 5 56 | E. | FEB | (30 18 30 | 30 13 7 |
| d. h. m. 4 2 43 | APRIL | 3 4 49 | 3 16 57 | | i | (1714 | 1 4 14 |
| 1 4 10 | MAY. | 2 17 33 | 3 1 31 | April. | MAR | \(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\ | 30 19 57 |
| | MAI. | (1 6 17 | 1 8 42 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | APRIL | 29 8 42 | 20 11 40 |
| | June . | 30 19 1 | 30 15 32 | | MAY . | 28 21 26 | 29 2 40 |
| | JULY. | 30 7 45 | 29 23 10 | | June . | 27 10 10 | 27 16 28 |
| | Aug. | 28 20 29 | 28 8 29 | | JULY . | 26 22 54 | 27 4 55 |
| | SEPT | 27 9 13 | 26 20 15 | | Aug | 25 11 38 | 25 16 18 |
| | Oct. | 26 21 57 | 26 10 45 | | SEPT | 24 .0 22 | 24 3 8 |
| | Nov. | 25 10 41 | 25 3 44 | | Ост | 23 13 6 | 23 13 52 |
| | DEC. | 24 23 25 | 24 22 17 | | Nov | 22 1 50 | 22 0 40 |
| | , | | | | DEC | 21 14 34 | 21 11 37 |
| 1477. | Jan | 23 12 9 | 23 17 1 | 1474. | JAN | 20 3 18 | 19 22 48 |
| A.G. | FEB | 22 0 53 | 22 10 31 | р. | FEB | 18 16 2 | 18 10 29 |
| | MAR | 22 13 37 | 23 1 41 | | MAR. | 20 4 47 | 19 23 2 |
| 3 8 32 | APRIL | 21 2 21 | 21 14 6 | 4 1 58 | APRIL | 18 17 31 | 18 12 43 |
| | MAY . | 20 15 5 | 21 0 2 | | MAY. | 18 6 15 | 18 3 28 |
| | June. | 19 3 49 | 19 8 19 | | June . | 16 18 59 | 16 18 55 |
| | JULY. | 18 16 33 | 18 16 1 | | JULY . | 16 7 43 | 16 10 22 |
| | Aug | 17 5 17 | 17 0 5 | | Aug | 14 20 27 | 15 1 18 |
| | SEPT | 15 18 1 | 15 9 23 | | SEPT | 13 9 11 | 13 15 10 |
| | Ocr | 15 6 45 | 14 20 26 | | Oct | 12 21 55 | 13 4 8 |
| | Nov | 13 19 29 | 13 9 31 | | Nov | 11 10 39 | 11 16 11 |
| | Dec | 13 8 13 | 13 0 32 | | DEC | 10 23 23 | 11 3 22 |
| 1476. | JAN | 11 20 57 | 11 17 7 | 1473. | JAN | 9 12 7 | 9 13 46 |
| F. | FEB | 10 9 41 | 10 10 28 | C.B. | FEB | 8 0 51 | 7 23 33 |
| | MAR | 11 22 26 | 12 3 34 | | MAR | 8 13 36 | 8 9 10 |
| 3 14 21 | APRIL | 10 11 10 | 10 19 24 | 3 7 47 | APRIL | 7 2 20 | 6 19 18 |
| | MAY . | 9 23 54 | 10 9 18 | | MAY . | 6 15 4 | 6 6 42 |
| | June. | 8 12 38 | 8 21 6 | | June . | 5 3 48 | 4 19 55 |
| | JULY. | 8 1 22 | 8 7 13 | | July . | 4 16 32 | 4 10 56 |
| | Aug | 6 14 6 | 6 16 26 | | Aug | 3 5 16 | 3 3 19 |
| | SEPT | 5 2 50 | 5 1 36 | | SEPT | 1 18 0 | 1 20 11 |
| | Ост | 4 15 34 | 4 11 23 | | Oar | f 1 6 44 | 1 12 40 |
| | Nov | 3 4 18 | 2 22 8 | | Oct | \dagged 30 19 28 | 31 3 59 |
| | DEC | 2 17 2 | § 2 10 0 | | Nov. | 29 8 12 | 29 17 41 |
| | DEC. | 211 2 | lg1 22 59 | | DEC | 28 20 56 | 29 5 35 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|--|----------------------|
| B.C. 1472. | Jan | d. h. m. 27 9 40 | d. h. m. 27 15 48 | B.C. 1469. | Jan | d. h. m. 25 0 50 | d. h. m. 25 11 35 |
| A. | FEB | 25 22 24 | 26 0 39 | E.D. | Feb | 23 13 34 | 24 8 8 |
| April. d. h. m. | MAR | 27 11 8 | 27 8 46 | April. $d. h. m.$ | MAR | 24 2 18 | 24 15 29 |
| 3 13 36 | APRIL | 25 23 52 | 25 17 0 | 3 7 2 | APRIL | 22 15 2 | 23 1 9 |
| | MAY . | 25 12 36 | 25 2 23 | | MAY . | 22 3 46 | 22 8 53 |
| | June . | 24 1 20 | 28 13 49 | | JUNE . | 20 16 30 | 20 15 50 |
| | JULY. | 23 14 4 | 23 3 48 | | July . | 20 5 14 | 19 23 4 |
| | Aug | 22 2 48 | 21 20 12 | | Aug | 18 17 58 | 18 7 84 |
| 1 | SEPT | 20 15 32 | 20 14 15 | | SEPT | 17 6 42 | 16 18 10 |
| | Ост | 20 4 16 | 20 8 41 | 1 | Ocr | 16 19 26 | 16 7 19 |
| | Nov | 18 17 0 | 19 2 11 | | Nov | 15 8 10 | 14 28 6 |
| | DEC | 18 5 44 | 18 17 40 | | DEC | 14 20 54 | 14 16 58 |
| 1471. G. | JAN | 16 18 28 | 17 6 37 | 1468. | Jan | 13 9 38 | 13 11 32 |
| u. | FEB | 15 7 12 | 15 17 6 | C. | FEB | 11 22 22 | 12 5 38 |
| | MAR. | 16 19 57 | 17 1 36 | | MAR | 13 11 7 | 13 21 58 |
| 3 19 25 | APRIL | 15 8 41 | 15 8 53 | 8 12 51 | APRIL | 11 23 51 | 12 11 44 |
| | MAY . | 14 21 25 | 14 15 56 | | MAY . | 11 12 35 | 11 22 58 |
| | June . | 13 10 9 | 12 23 51 | | June . | 10 1 19 | 10 7 58 |
| | JULY. | 12 22 53 | 12 9 44 | | July . | 9 14 3 | 9 15 59 |
| 11. | Aug | 11 11 37 | 10 22 24 | | Aug | 8 2 47 | 7 23 58 |
| | SEPT | 10 0 21 | 9 14 4 | | SEPT | 6 15 31 | 6 8 44 |
| | Ост | 9 13 5 | 9 8 13 | | Ост | 6 4 15 | 5 19 0 |
| | Nov. | 8 1 49 | 8 3 37 | | Nov | 4 16 59 | 4 7 8 |
| | DEC | 7 14 33 | 7 22 38 | | DEC | 4 5 43 | 3 21 2 |
| 1470. F. | JAN | 6 3 17 | 6 15 41 | 1467. | JAN | 2 18 27 | 2 12 48 |
| 1 | FEB. | 4 16 1 | 5 5 55 | В. | FEB | 1 7 11 | 1 5 81 |
| | MAR. | 6 4 46 | 6 17 10 | | MAR | 2 19 5.6 | 2 22 39 |
| 4 1 14 | MAY. | 4 17 30 | 5 1 55 4 9 4 | 3 18 40 | APRIL | $ \begin{cases} 1 & 8 & 40 \\ 30 & 21 & 24 \end{cases} $ | 1 15 4 |
| | JUNE . | 2 18 58 | | | | | 1 1 5 57 |
| | COME. | (2 7 42 | 2 15, 41 | | MAY . | 30 10 8 | 130 18 50 |
| | JULY. | 31 20 26 | 1 | | JUNE. | 28 22 52 | 29 5 56 |
| | Aug | 30 9 10 | | | JULY. | 28 11 36 | 28 15 44 |
| | SEPT | 28 21 54 | 1 | | Aug | 27 0 20 | 27 1 6 |
| | Ост. | 28 10 38 | 1 | | SEPT. | 25 13 4 | 25 10 42 |
| | Nov. | 26 23 22 | 1 | | Oct. | 25 1 48 | 24 21 5 |
| | Drc. | 26 12 6 | 0 | | Nov. | 28 14 32 | 23 8 22 |
| | | | 20 11 52 | | DEC. | 23 3 16 | 22 20 38 |
| 1 | | 1 | 1 | H | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|-------------------------------|---------------------------|--|---|-------------------------------|---------------------------|---|--|
| B.C. 1466. A. April. | JAN FEB MAR | d. h. m. 21 16 0 20 4 44 21 17 28 | d. h. m. 21 9 57 20 0 17 21 15 29 | B.C. 1463. D. April. | Jan Feb Mar | d. h. m. 18 7 10 16 19 54 18 8 38 | d. h. m. 18 15 10 17 0 29 18 8 40 |
| d. h. m. 4 0 29 | APRIL MAY . JUNE . JULY . | 20 6 12 19 18 56 18 7 40 17 20 24 | 20 7 8 19 22 33 18 13 7 18 2 26 | d. h. m. 3 17 55 | APRIL MAY . JUNE . JULY . | 16 21 22 16 10 6 14 22 50 14 11 34 | 16 16 31 16 1 3 14 11 16 13 23 57 |
| | Aug Sept Oct | 16 9 8 14 21 52 14 10 36 | 16 14 35 15 1 56 14 12 53 12 23 43 | | Aug Sept Oct Nov | 13 0 18 11 13 2 11 1 46 9 14 30 | 12 15 17 11 8 49 11 3 26 9 21 44 |
| 1465. | Nov DEC JAN | 12 23 20 12 12 4 11 0 48 | 12 25 45 12 10 34 10 21 27 | 1462. | DEC | 9 3 14 7 15 58 | 9 14 25 8 4 40 |
| 3 6 18 | FEB MAR APRIL | 9 13 32 10 2 17 8 15 1 | 9 8 35 9 20 21 8 9 10 | 3 23 44 | FEB MAR APRIL | 6 4 42 7 17 27 6 6 11 | 6 16 16 8 1 32 6 9 11 5 16 5 |
| | MAY . JUNE . JULY . | 8 3 45 6 16 29 6 5 13 | 7 28 15 6 14 23 6 6 0 4 21 28 | | MAY . JUNE . JULY . | 5 18 55 4 7 39 3 20 23 (2 9 7 | 5 16 5 3 23 23 3 8 9 1 19 23 |
| | Aug Sept Oct | 4 17 57 3 6 41 2 19 25 1 8 9 | 3 12 13 3 1 57 1 14 40 | | SEPT | 81 21 51 80 10 85 29 23 19 | 31 9 38 30 2 46 29 21 51 |
| 1404 | Nov | \$0 20 53 \$0 9 87 | 1 2 20 80 13 4 | 1461. | Nov DEC | 28 12 3 28 0 47 26 13 31 | 28 17 21 28 11 31 27 3 10 |
| 1464. E. | Jan Fes Mar | 28 22 21 27 11 5 28 28 50 | 28 22 56 27 8 19 28 17 51 | B.A. | FEB MAR | 25 2 15 25 14 59 24 8 48 | 25 15 48 26 1 36 24 9 21 |
| 3 12 7 | MAY . JUNE . JULY . | 27 12 34 27 1 18 25 14 2 25 2 46 | 27 4 17 26 16 25 25 6 32 24 22 25 | 3 5 83 | MAY . JUNE . JULY . | 23 16 27 22 5 11 21 17 55 | 23 16 4 21 22 52 21 6 52 |
| | Aug Sept Oct Nov | 28 15 30 22 4 14 21 16 58 20 5 42 | 23 15 22 22 8 26 22 0 39 20 15 23 | | Aug Sept Oct Nov | 20 6 39 18 19 23 18 8 7 16 20 51 | 18 6 0 17 22 0 |
| | DEC. | 19 18 26 | 20 4 14 | | DEC | 16. 9 35 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True · New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--|--|---|---|--|--|--|
| B.C. 1460. G. April. d. h. m. 3 11 22 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 14 22 19 13 11 3 14 28 48 13 12 32 13 1 16 11 14 0 11 2 44 9 15 28 8 4 12 | d. h. m. 15 6 39 18 28 26 15 18 19 14 0 15 18 8 50 11 16 7 10 28 11 9 7 5 7 16 42 | B.C. 1457. D.C. April. d. h. m. 3 4 48 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 12 18 29 11 2 18 11 14 58 10 3 42 9 16 26 8 5 10 7 17 54 6 6 88 4 19 22 | d. h. m. 12 7 18 10 20 50 11 11 21 10 2 37 9 18 8 8 9 14 7 25 24 6 12 23 5 0 23 |
| | Nov DEC | 7 16 56 6 5 40 5 18 24 | 7 4 38 5 19 7 5 11 53 | | Nov Dec | 4 8 6 2 20 50 5 2 9 34 31 22 18 | 4 11 45 2 22 46 2 9 38 |
| 1459. F. 3 17 11 | JAN FEB MAR | 4 7 8 2 19 52 4 8 37 | 4 6 4 3 0 26 4 17 38 | 1456. B. | Jan Feb | 30 11 2 28 23 47 | 31 20 28 30 7 6 23 18 13 |
| 317 11 | MAY . June . | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | \$ 8 40 2 21 6 | 8 10 87 | MAR APRIL MAY. | 30 12 31 29 1 15 28 13 59 | 80 6 10 23 19 24 28 9 57 |
| | JULY . AUG SEPT | 30 0 17 28 13 1 27 1 45 | 130 15 48 29 23 51 28 8 20 26 17 57 | | JUNE. JULY. AUG | 27 2 48 26 15 27 25 4 11 | 27 1 27 26 17 17 25 8 48 |
| | Oct Nov Dec | 26 14 29 25 3 13 24 15 57 | 26 5 9 24 18 8 24 8 50 | | SEPT Oct Nov Dec | 23 16 55 23 5 39 21 18 23 21 7 7 | 23 23 17 23 12 45 22 1 4 21 12 15 |
| 1458. E. | JAN FEB MAR | 23 4 41 21 17 25 23 6 9 | 28 0 58 21 17 42 23 10 22 | 1455. A. | Jan Feb Mar | 19 19 51 18 8 35 19 21 19 | 19 22 23 18 7 44 |
| 3 23 0 | MAY . June . | 21 18 53 21 7 37 19 20 21 | 22 2 3 21 16 0 20 4 6 | 8 16 26 | APRIL MAY. June. | 18 10 3 17 22 47 16 11 81 | 19 16 49 18 2 28 17 13 30 16 2 32 |
| | JULY . AUG SEPT OCT | 19 9 5 17 21 49 16 10 33 15 93 17 | 19 14 40 18 0 24 16 10 4 | | July . Aug Sept | 16 0 15 14 12 59 13 1 43 | 15 17 39 14 10 21 13 3 43 |
| | Nov Dec | 15 23 17 14 12 1 14 0 45 | 15 20 11 14 7 2 13 18 44 | | Oct Nov Dec | 12 14 27 11 3 11 10 15 55 | 12 20 44 11 12 29 11 2 22 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon, | Mean Vernal Equinox. | Month. | Mean New Moon, | True New Moon, |
|--|--------|----------------------|----------------------|----------------------------|--------|----------------------|----------------------|
| B.C. 1454. | Jan | d. h. m. 9 4 39 | d. h. m. 9 14 13 | B.C. 1451. | Jan | d. h. m. 5 19 49 | d. h. m. 6 1 16 |
| G. | FEB | 7 17 23 | 8 0 9 | c. | FEB | 4 8 23 | 4 18 58 |
| April. | MAR. | 9 6 8 | 9 8 39 | April. | MAR. | 5 21 18 | 6 10 27 |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | APRIL | 7 18 52 | 7 16 22 | d. h. m. 3 15 41 | APRIL | 4 10 2 | 4 22 46 |
| 0 11 10 | MAY. | 7 7 36 | 7 0 16 | 0 10 11 | MAY . | 3 22 46 | 4 8 25 |
| | JUNE . | 5 20 20 | 5 9 25 | | JUNE . | 2 11 30 | 2 16 16 |
| | July. | 5 9 4 | 4 20 46 | | ouns. | (2 0 14 | 1 23 25 |
| | Aug. | 3 21 48 | 3 10 51 | | JULY. | 31 12 58 | 31 6 56 |
| | SEPT. | 2 10 32 | 2 3 30 | | Aug | 30 1 42 | 29 15 44 |
| | DEFI | 1 23 16 | 1 21 56 | | SEPT. | 28 14 26 | 28 2 33 |
| | Oct | 31 12 0 | 31 16 45 | | Ocr. | 28 3 10 | 27 15 47 |
| | Nov | 30 0 44 | 30 10 40 | | Nov. | 26 15 54 | 26 7 24 |
| | DEC. | 29 13 28 | 30 2 4 | | DEC. | 26 4 38 | 26 0 51 |
| | 220 | 20 20 20 | 00 1 1 | | | 20 2 00 | 20 001 |
| 1453. | JAN | 28 2 12 | 28 14 55 | 1450. | JAN | 24 17 22 | 24 19 4 |
| F.E. | FEB | 26 14 56 | 27 1 9 | B. | FEB | 23 6 6 | 23 12 49 |
| | MAR | 27 3 41 | 27 9 23 | | MAR | 24 18 51 | 25 4 56 |
| 8 4 4 | APRIL | 25 16 25 | 25 16 24 | 3 21 30 | APRIL | 23 7 35 | 23 18 39 |
| | MAY. | 25 5 9 | 24 23 18 | | MAY - | 22 20 19 | 23 5 56 |
| | June . | 23 17 53 | 23 7 11 | | JUNE . | 21 9 8 | 21 15 19 |
| | July. | 23 6 37 | 22 17 6 | | JULY. | 20 21 47 | 20 28 41 |
| | Aug | 21 19 21 | 21 5 53 | | Aug | 19 10 31 | 19 8 4 |
| | SEPT | 20 8 5 | 19 21 44 | | SEPT | 17 28 15 | 17 17 13 |
| | Oct | 19 20 49 | 19 16 5 | | Ocr | 17 11 59 | 17 3 43 |
| | Nov | 18 9 33 | 18 11 37 | | Nov | 16 0 43 | 15 15 47 |
| | DEC | 17 22 17 | 18 6 40 | | DEC | 15 18 27 | 15 5 81 |
| 1452. | JAN | 16 11 1 | 16 23 42 | 1449. | JAN | 14 2 11 | 18 20 42 |
| D. | PEB | 14 23 45 | 15 13 47 | A,G. | FEB | 12 14 55 | 12 12 56 |
| | MAR | 16 12 29 | 17 0 51 | | MAR | 13 3 39 | 13 5 85 |
| 3 9 53 | APRIL | 15 1 13 | 15 9 25 | 3 8 19 | APRIL | 11 16 23 | 11 21 42 |
| | May . | 14 13 57 | 14 16 30 | | MAY. | 11 5 7 | 11 12 34 |
| | June . | 13 2 41 | 12 23 9 | | June. | 9 17 51 | 10 1 42 |
| | July. | 12 15 25 | 12 6 28 | | JULY. | 9 6 35 | 9 13 11 |
| | Aug | 11 4 9 | 10 15 31 | | Aug | 7 19 19 | 7 28 80 |
| | SEPT | 9 16 53 | 9 3 8 | | SEPT | 6 8 3 | 6 9 21 |
| | Oct | 9 5 37 | 8 17 42 | | Ocr | 5 20 47 | 5 19 24 |
| | Nov | 7 18 21 | 7 11 1 | | Nov | 4 9 81 | 4 5 58 |
| | DEC | 7. 7 5 | 7 6 2 | | Dec | 3 22 15 | 8 17 18 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--------------------------------|----------------------|--|---|---------------------------------|---------------------------|---|---|
| B.C. 1448. F. | Jan Feb | d. h. m. { 2 10 59 81 23 43 | d. h. m. 2 5 10 31 17 55 | В.С. 1445. с.в. April. | Jan Feb Mar | d. h. m. 29 14 53 28 3 37 28 16 22 | d. h. m. 29 23 37 28 8 34 28 16 24 |
| April. d. h. m. 3 9 8 | Mar | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{cases} 2 & 7 & 39 \\ 81 & 22 & 19 \end{cases} $ 30 13 38 | d. h. m. 3 2 85 | APRIL MAY. | 27 5 6 26 17 50 | 26 23 56 26 8 13 |
| 6 | MAY . JUNE . JULY . | 30 2 40 28 15 24 28 4 8 | 30 5 0 28 19 49 28 9 40 | | June . July . Aug | 25 6 34 24 19 18 23 8 2 | 24 18 18 24 7 1 22 22 32 |
| | Aug Sept Oct | 26 16 52 25 5 36 24 18 20 | 26 22 26 25 10 20 24 21 42 | | SEPT Oct Nov | 21 20 46 21 9 30 19 22 14 | 21 16 22 21 11 19 20 5 55 |
| | Nov Dec | 23 7 4 22 19 48 | 23 8 43 22 19 26 | 1444. | DEC | 19 10 58 17 23 42 | 19 22 45 18 12 58 |
| 1447. E. | JAN FEB MAR | 21 8 32 19 21 16 21 10 0 | 21 5 57 19 16 32 21 8 42 | 3 8 23 | FEB MAR APRIL | 16 12 26 18 1 10 16 13 54 | 17 0 22 18 9 22 16 16 45 |
| 8 14 57 | APRIL MAY . JUNE . | 19 22 44 19 11 28 18 0 12 | 19 16 0 19 5 46 17 20 51 | | MAY . June . July . | 16 2 38 14 15 22 14 4 6 | 15 23 30 14 6 43 13 15 32 |
| | JULY. Aug Sept | 17 12 56 16 1 40 14 14 24 | 17 12 45 16 4 42 14 20 8 | | Aug Sept | 12 16 50 11 5 34 10 13 18 | 12 2 51 10 17 16 10 10 84 |
| er meter Propins Cart - Tacada | Oct Nov Dec | 14 3 8 12 15 52 12 4 36 | 14 10 22 12 23 26 12 11 14 | , | Nov Dec | 9 7 2 8 19 46 | 9 5 46 9 1 17 |
| 1446. D. | Jan Feb | 10, 17 20 9, 6 4 | 10 21 46 9· 7 16 | 1443. _G . | Jan Feb Mar | 7 8 30 5 21 14 7 9 59 | 7 19 27 6 11 1 7 23 30 |
| 3 20 46 | MAR APRIL MAY. | 10.18 49 9 7 33 8 20 17 | 10 16 10 9 _1 11 8 11 15 | 3 14 12 | APRIL MAY . JUNE . | 5 22 43 5 11 27 4 0 11 | 6 9 9 5 16 49 3 23 33 |
| | JUNE. JULY. AUG | 7. :9 :1 6 21 45 5 10 29 | 6 23 7 6 13 12 5 5 19 | | July . | 3, 12, 55 (2, 1, 33) (31, 14, 28) | 3 6 28 1 14 88 81 0 58 |
| | SEPT OCT Nov | 3. 23 13 3. 11 57 2. 0 41 | 3 22 42 3 16 17 | | SEPT | 30 3 7 29 15 51 | 29 14 7 29 6 9 |
| | Dec. | $ \begin{cases} 1, 13, 25 \\ 31, 2, 9 \end{cases} $ | 2 0 0 | | Nov DEC | 28, 4 35 27 17 19 | 28 0 24 27 19 38 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|------------------------------|-------------------|--|---------------------------------|----------------------------|---------------------|---------------------------------|---------------------------------|
| B.C. 1442. | Jan Feb | d. h. m. 26 6 3 21 18 47 | d. h. m. 26 14 15 25 6 49 | B.C. 1439. | Jan` Feb | d. h. m. 22 21 13 21 9 57 | d. h. m. 22 15 33 21 4 28 |
| April. d. h. m. 3 20 1 | Mar April | 26 7 32 24 20 16 | 26 20 36 25 7 29 | April. d. h. m. 3 13 27 | MAR | 22 22 42 21 11 26 | 22 18 23 21 9 13 |
| | MAY. June. | 24 9 0 22 21 44 | 24 16 9 22 23 37 | | MAY . JUNE . JULY . | 21 0 10 19 12 54 19 1 38 | 21 0 35 19 15 50 19 6 24 |
| | JULY . AUG SEPT | 22 10 28 20 23 12 19 11 56 | 22 6 58 20 15 10 19 1 4 | | AUG | 17 14 22 16 8 6 | 17 19 58 16 8 34 |
| | Oct | 19 0 40 17 13 24 | 18 13 7 17 3 32 | | Ocr Nov | 15 15 50 14 4 34 | 15 20 24 14 7 48 |
| 4 | DEC | 17 2 8 | 16 20 0 | 1400 | DEC | 13 17 18 | 18 18 35 12 5 2 |
| 1441. E.D. | JAN FEB MAR | 15 14 52 14 8 36 14 16 20 | 15 13 47 14 7 44 15 0 37 | 1438. | JAN FEB MAR | 12 6 2 10 18 46 12 7 30 | 10 15 17 12 1 48 |
| 8 1 50 | APRIL MAY . | 18 5 4 12 17 48 | 13 15 31 13 4 1 | 3 19 16 | APRIL MAY. | 10 20 14 10 8 58 | 10 18 18 10 2 1 |
| | June . July . | 11 6 32 10 19 16 | 11 14 22 10 23 19 | | JUNE . JULY . | 8 21 42 8 10 26 | 8 16 26 8 8 4 |
| | Aug Sept | 9 8 0 7 20 44 | 9 7 49 7 16 41 | | Aug Sept | 6 28 10 5 11 54 | 7 0 18 5 16 18 |
| T | Nov | 7 9 28 5 22 12 5 10 56 | 7 2 37 5 13 55 5 2 45 | | Nov Dec | 5 0 38 3 13 22 3 2 6 | 5 7 28 8 21 24 8 9 56 |
| 1440. c. | JAN FEB | 3 23 40 2.12 24 | 3 17 1 2 8 31 | 1437. G.F. | Jan | { 1 14 50 81 8 84 | 1 21 2 31 6 51 |
| 3 7 88 | MAR APRIL | 4. 1 9 2 13 53 | 4 0 48 2 17 6 | | FEB | 29 16 18 30 5 3 | 29 15 45 30 0 28 28 9 87 |
| | MAY . | $ \begin{cases} 2 & 2 & 37 \\ 31 & 15 & 21 \\ 30 & 4 & 5 \end{cases} $ | 2 8 36 31 22 43 30 11 10 | 8 1 5 | MAY . June . | 28 17 47 28 6 81 26 19 15 | 27 20 21 26 9 16 |
| | JUNE . JULY . Aug | 29.16 49 28 5 33 | 29 22 15 28 8 30 | | JULY . Aug | 26. 7 59 24. 20 48 | 26 0 29 24 17 32 |
| | SEPT | 26. 18 17 26. 7 1 | 26 18 37 26 5 4 | | SEPT Oct. | 23. 9 27 22. 22 11 | 28 11 22 28 4 58 |
| | Nov DEC | 24. 19 45 24. 8 29 | 24 15 58 24 3 26 | | Nov Dec | 21.10 55 20.23 39 | 21 20 59 21 11 0 |
| | | 1 | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|-------------------------|---|--|---|-------------------------------|--|--|
| B.C. 1436. E. April. d. h. m. | Jan Feb Mar | d. h. m. 19 12 23 18 1 7 19 13 52 | d. h. m. 19 22 44 18 8 23 19 16 81 | B.C. 1433. B.A. April. d. h. m. | JAN FEB MAR | d. h. m. 17 3 33 15 16 17 16 5 1 | d. h. m. 17 8 56 16 2 33 16 17 40 |
| 3 6 54 | APRIL MAY. JUNE. JULY. | 18 2 36 17 15 20 16 4 4 15 16 48 | 17 23 55 17 7 83 15 16 33 15 8 52 | 3 0 20 | APRIL MAY . JUNE . JULY . | 14 17 45 14 6 29 12 19 13 12 7 57 | 15 5 56 14 15 38 12 23 40 12 7 5 |
| | SEPT OCT Nov DEC | 14 5 32 12 18 16 12 7 0 10 19 44 10 8 28 | 13 18· 4 12 10 58 12 5 41 11 0 47 10 18 44 | | Aug SEPT Oct Nov Dec | 10 20 41 9 9 25 8 22 9 7 10 53 6 23 37 | 10 14 55 9 0 2 8 11 3 7 0 18 6 15 41 |
| 1435. D. 3 12 43 | JAN FEB MAR APRIL | 8 21 12 7 9 56 8 22 40 7 11 24 | 9 10 20 7 23 3 9 9 4 7 17 1 | 1432. g. | JAN Feb Mar | 5 12 21 4 1 5 5 13 50 | 5 8 44 4 2 30 5 19 58 |
| | MAY . JUNE . JULY . AUG | 7 0 8 5 12 52 5 1 36 3 14 20 | 6 23 52 5 6 42 4 14 35 3 0 36 | | APRIL MAY . JUNE . JULY . | 4 2 34 3 15 18 2 4 2 1 16 46 31 5 30 | 4 11 46 4 1 28 2 12 57 1 22 39 31 7 27 |
| | SEPT OCT Nov DEC. , | $\begin{bmatrix} 2 & 3 & 4 \\ 1 & 15 & 48 \\ 31 & 4 & 32 \\ 29 & 17 & 16 \\ 29 & 6 & 0 \end{bmatrix}$ | 1 13 32 1 5 31 31 0 0 29 19 34 29 14 35 | | Aug Sept Oct Nov Dec | 29 18 14 28 6 58 27 19 42 26 8 26 25 21 10 | 29 16 17 28 1 49 27 12 31 26 0 32 25 13 56 |
| 1434. c. | JAN FEB MAR | 27 18 44 26 7 28 27 20 13 | 28 7 31 26 21 27 28 8 23 | 1431. F. | Jan Feb Mar | 24 9 54 22 22 38 24 11 23 | 24 4 35 22 20 14 24 12 23 |
| 3 18 31 | MAY . JUNE . JULY , AUG | 23 23 9 22 11 53 | 24 6 41 23 14 12 21 23 28 | 3 11 58 | APRIL MAY . JUNE . JULY . AUG | 28 0 7 22 12 51 21 1 35 20 14 19 19 3 3 | 28 4 15 22 19 8 21 8 34 20 20 31 19 7 23 |
| | OCT Nov DEC | 20 13 21 | 20 1 54 | | SEPT., OCT Nov DEC | 17 15 47 17 4 81 15 17 15 15 5 59 | 17 17 46 17 4 18 15 14 57 15 2 4 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--|--|--|--|--|---|--|
| B.C. 1430. E. April. d. h. m. 3 17 47 | Jan Feb Mar April May . June . July . | d. h. m. 18 18 48 12 7 27 13 20 11 12 8 55 11 21 39 10 10 28 9 23 7 | d. h. m. 18 18 37 12 1 48 18 14 55 12 5 2 11 20 4 10 11 28 10 2 38 | B.C. 1427. A. April. d. h. m. 3 11 13 | Jan Feb Mar April May . June . July . | d. h. m. 10 9 53 8 22 37 10 11 21 9 0 5 8 12 49 7 1 33 6 14 17 | d. h. m. 10 21 25 9 7 56 10 16 33 9 0 2 8 7 17 6 15 24 6 1 25 |
| 1429. | Aug Sept Oct Nov Dec | 8 11 51 7 0 35 6 13 19 5 2 3 4 14 47 8 3 31 | 8 16 59 7 6 22 6 18 49 5 6 33 4 17 41 3 4 14 | | Aug Sept Oct Nov Dec | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4 14 12 3 5 55 3 0 1 1 19 16 1 14 4 31 6 59 |
| D.C. | FEB | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 1 14 19 2 0 23 31 10 59 | 1426. _G . | Jan Feb Mar | 29 7 25 27 20 9 29 8 54 | 29 21 6 28 8 18 29 17 5 |
| 2 23 36 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 30 6 28 29 19 12 28 7 56 27 20 40 26 9 24 24 22 8 24 10 52 22 23 36 22 12 20 | 29 22 49 29 12 18 28 3 24 27 19 36 26 12 4 25 4 1 24 18 51 23 8 15 22 20 4 | 3 17 2 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 27 21 88 27 10 22 25 28 6 25 11 50 24 0 84 22 18 18 22 2 2 20 14 46 20 8 30 | 28 0 16 27 6 55 25 14 10 24 23 8 28 10 32 22 1 6 21 18 30 20 18 44 20 9 18 |
| 1428. в. | JAN FEB MAR | 21 1 4 19 13 48 21 2 33 | 21 6 23 19 15 29 20 23 56 | 1425. F.E. | Jan Feb Mar | 18 16 14 17 4 58 17 17 43 | 19 8 17 17 18 42 18 7 2 |
| 8 5 21 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 19 15 17 19 4 1 17 16 45 17 5 29 15 18 18 14 6 57 13 19 41 12 8 25 11 21 9 | 19 8 81 18 18 13 17 5 55 16 20 2 15 12 23 14 6 10 14 0 15 12 17 21 12 8 34 | 2 22 51 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 16 6 27 15 19 11 14 7 55 13 20 39 12 9 23 10 22 7 10 10 51 8 23 35 8 12 19 | 16 16 35 16 0 18 14 7 2 18 14 7 11 22 81 10 9 5 9 22 22 8 14 22 8 8 27 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|----------------------|----------------------|
| B.C. | - | d. h. m. | d. h. m. | B.C. | т | d. h. m. | d. h. m. 4 12 4 |
| 1424. D. | JAN | 7 1 3 | | 1421. A.G. | JAN | 4 16 12 | |
| April. | FEB | 5 13 47 | 5 21 42 | April. | Feb | 3 4 56 | 2 28 89 |
| d. h. m. | MAR | 7 2 31 | 7 14 3 | d. h. m. | MAR. | 3 17 41 | 3 11 59 |
| 3 4 40 | APRIL | 5 15 15 | 6 3 41 | 2 22 6 | APRIL | 2 6 25 | 2 1 19 |
| | MAY . | 5 3 59 | 5 14 37 | | MAY . | § 1 19 9 | 1 15 45 |
| | June . | 3 16 43 | 3 23 26 | | LULL . | \81 7 53 | 81 6 58 |
| | JULY. | 3 5 27 | 3 7 9 | | June . | 29 20 37 | 29 22 26 |
| | A 770 | 1 18 11 | 1 14 50 | | JULY . | 29 9 21 | 29 18 29 |
| | AUG | 31 6 55 | 30 23 24 | | Aug | 27 22 5 | 28 8 89 |
| | SEPT | 29 19 39 | 29 9 33 | | SEPT | 26 10 49 | 26 16 51 |
| | Oct | 29 8 23 | 28 21 43 | | Ocr | 25 23 33 | 26 5 10 |
| | Nov | 27 21 7 | 27 11 59 | | Nov | 24 12 17 | 24 16 40 |
| | DEC. | 27 9 51 | 27 4 6 | | DEC | 24 1 1 | 24 8 26 |
| 1423. | JAN | 25 22 35 | 25 21 24 | 1420. | JAN | 22 13 45 | 22 18 88 |
| C. | FEB | 24 11 19 | 24 14 52 | F. | FEB | 21 2 29 | 20 28 19 |
| | MAR. | 26 0 4 | 26 7 27 | | MAR | 22 15 14 | 22 9 18 |
| 3 10 29 | APRIL | 24 12 48 | 24 22 16 | 8 3 55 | APRIL | 21 3 58 | 20 20 12 |
| | MAY . | 24 1 32 | 24 10 55 | | May . | 20 16 42 | 20 8 41 |
| | JUNE . | 22 14 16 | 22 21 34 | | June . | 19 5 26 | 18 22 58 |
| | JULY . | 22 3 0 | 22 6 56 | | JULY . | 18 18 10 | 18 14 48 |
| | Aug. | 20 15 44 | 20 15 53 | | Aug. | 17 6 54 | 17 7 26 |
| | SEPT. | 1 | 19 1 13 | | SEPT. | 15 19 38 | 16 0 2 |
| | Ocr. | 18 17 12 | 18 11 26 | | Oct. | 15 8 22 | 15 15 45 |
| | Nov. | 17 5 56 | 16 22 47 | | Nov. | 13 21 6 | 14 6 5 |
| | DEC. | 16 18 40 | 16 11 22 | | DEC. | 18 9 50 | 18 18 44 |
| 1422. B. | Jan. | 1 | 15 1 10 | 1419. | JAN | 11 22 34 | 12 5 42 |
| _ | FEB. | 1 | 1 0 | E. | FEB | 10 11 18 | 10 15 18 |
| | MAR. | . 15 8 52 | 15 7 45 | | MAR | 12 0 2 | 11 28 41 |
| 3 16 1 | | | 13 23 41 | 8 9 44 | APRIL | 10 12 46 | 10 7 52 |
| | MAY | 1 | 13 15 6 | | MAY . | 10 1 30 | 9 16 48 |
| | JUNE | . 11 23 4 | 12 5 23 | | JUNE . | 8 14 14 | 8 8 14 |
| | JULY | . 11 11 48 | 11 18 17 | | JULY. | 8 2 58 | 7 16 5 |
| | Aug. | | 10 5 53 | | Aug. | 6 15 42 | 6 7 27 |
| | SEPT. | | 8 16 44 | | SEPT. | 5 4 26 | 5 0 50 |
| | Oct. | | 0 0 10 | | Oct | 4 17 10 | 4 19 8 |
| | Nov. | | 6 14 0 | | Nov. | 3 5 54 | 3 18 8 |
| | DEC. | . 6 3 28 | 6 0 55 | 1 | DEC. | 2 18 38 | 8 5 27 |
| | | | | | | - 10 00 | 0 0 21. |
| - | | <u> </u> | 1 | II . | 1 | 1 | 1 |

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| Menn Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|-------------------------------|--------------------|---------------------------------|--|---------------------------------|-------------------|--------------------------------|-------------------------------------|
| B.C. 1418. | Jan | d. h. m. | d. h. m. | B.C. 1415. _G . | Jan Feb | d. h. m. 27 11 16 26 0 0 | d. h. m. 27 16 27 26 9 46 |
| D. | Feb | (30 20 6 | 81 7 5 1 16 28 | April. d. h. m. 3 8 59 | MAR | 27 12 45 26 1 29 | 28 0 45 26 13 0 |
| April. d. h. m. 3 15 33 | MAR April | (30 21 35 29 10 19 | 31 0 16 29 7 21 | | May . June . | 25 14 18 24 2 57 | 25 22 50 24 7 5 |
| | May . June . | 28 28 3 27 11 47 | 28 14 49 26 23 43 | | July . | 23 15 41 22 4 25 | 23 14 50 21 23 3 |
| | July . | 27 0 31 25 13 15 | 26 11 4 25 1 25 | | SEPT | 20 17 9 20 5 53 | 20 8 3 1 19 19 4 3 |
| | SEPT OCT Nov | 24 1 59 23 14 43 22 3 27 | 23 18 33 23 13 31 22 8 51 | | Nov Dec | 18 18 37 18 7 21 | 18 8 54 17 23 59 |
| سدم ہے | DEC | 21 16 11 20 4 55 | 22 2 54 20 18 27 | 1414. F. | Jan Feb | 16 20 5 15 8 49 | 16 16 88 15 9 49 |
| 1417. с.в. | JAN FEB MAR | 18 17 39 19 6 24 | 19 7 1 19 16 49 | 3 14 4 8 | MAR APRIL | 16 21 34 15 10 18 | 17 2 47 15 18 28 |
| 2 21 22 | APRIL MAY. | 17 19 8 17 7 52 | 18 0 35 17 7 19 | | MAY . June . | 14 28 2 18 11 46 | 15 8 15 13 19 58 13 6 6 |
| | June. July. | 15 20 36 15 9 20 | 15 14 7 14 22 6 | | JULY . AUG SEPT | 13 0 30 11 13 14 10 1 58 | 13 6 6 11 15 23 10 0 40 |
| | Aug Sept | 13 22 4 12 10 48 | 13 8 17 | | Oct Nov | 9 14 42 8 3 26 | 9 1 0 34 7 21 24 |
| | Nov | 11 23 32 10 12 16 10 1 0 | 11 13 29 10 7 59 10 3 33 | | DEC | 7 16 10 | 7 9 18 |
| 1416. | DEC | 8 18 44 | 8 22 6 7 15 11 | 1413. E.D. | JAN FEB MAR | 6 4 54 4 17 88 5 6 22 | 5 22 17 4 12 22 5 3 27 |
| 3 3 10 | FEB MAR APRIL | 7 2 28 8 15 12 7 8 56 | 9 4 59 7 15 48 | 2 20 87 | APRIL MAY | 3 19 6 | 3 19 4 |
| | MAY . June . | 6 16 40 5 5 24 | 7 0 14 5 7 22 | | JUNE . | 1 20 84 | |
| | July . | 4 18 8 3 6 52 | 4 14 16 2 22 1 | | Aug | 30 22 2 29 10 46 | 29 15 28 |
| | SEPT | 1 19 36 f 1 8 20 | $\begin{cases} 1 & 7 & 33 \\ 30 & 19 & 31 \end{cases}$ | | SEPT | 27 23 80 27 12 14 | 27 18 5 |
| | Nov | 130 21 4 29 9 48 28 22 32 | 30 10 11 29 3 16 28 21 49 | | Nov Dec | 26 .0 58 25 13 42 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|--|--|--|--|--|--|---|
| B.C. 1412. c. April. d. h. m. 3 2 25 | JAN FEB MAR APRIL MAY . JUNE . | d. h. m. 24 2 26 22 15 10 24 3 55 22 16 39 22 5 23 20 18 7 | d. h. m. 23 21 58 22 9 33 23 22 4 22 11 44 22 2 32 20 18 0 20 9 30 | B.C. 1409. g.f. April. d. h. m. 2 19 52 | JAN FEB MAR APRIL MAY . JUNE . JULY . | d. h. m. 21 17 36 20 6 20 20 19 5 19 7 49 18 20 38 17 9 17 16 22 1 | d. h. m. 22 5 48 20 16 5 21 0 26 19 7 37 18 14 38 16 22 38 16 8 42 |
| | JULY . AUG SEPT OCT NOV DEC | 20 6 51 18 19 35 17 8 19 16 21 3 15 9 47 14 22 31 | 19 0 25 17 14 25 17 3 25 15 15 27 15 2 36 | | Aug SEPT Oct Nov Dec | 15 10 45 13 23 29 13 12 13 12 0 57 11 13 41 | 14 21 84 13 18 27 18 7 47 12 3 15 11 22 10 |
| 1411. B. | JAN FEB MAR | 13 11 15 11 23 59 13 12 44 | 13 12 54 11 22 34 13 8 5 | 1408. E. | JAN FEB MAR | 10 2 25 8 15 9 10 8 53 | 10 15 4 9 5 5 10 16 6 |
| 3 8 14 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 12 1 28 11 14 12 10 2 56 9 15 40 8 4 24 6 17 8 6 5 52 4 18 36 4 7 20 2 20 4 | 6 12 5 5 3 23 4 17 0 | 8 1 41 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov | 8 16 37 8 5 21 6 18 5 6 6 49 4 19 33 3 8 17 2 21 1 { 1 9 45 30 22 29 30 11 13 | 9 0 41 8 7 48 6 14 21 5 21 89 4 6 48 2 18 21 2 9 2 1 2 80 30 21 48 30 17 4 |
| 3 14 | FEB. MAR. | (1 10 16 | 2 23 34 3 1 7 35 | 1407. D. 3 7 30 | JAN FEB MAR APRIL | 28 23 57 27 12 41 29 1 26 27 14 10 | 29 10 57 28 2 12 29 14 24 27 28 55 |
| | MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. | 30 11 42 29 0 22 28 13 15 27 1 5 25 14 4 25 3 2 23 16 | 1 30 1 12 3 28 12 47 2 28 2 58 6 26 19 33 0 25 13 45 4 25 8 14 8 24 1 41 | 5 7 50 | MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 27 14 10 27 2 54 25 15 38 25 4 22 28 17 6 22 5 50 21 18 34 20 7 18 19 20 2 | 27 28 36 27 7 86 25 14 88 24 21 58 23 6 84 21 17 22 21 6 48 19 22 87 19 16 26 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|-------------------------------|----------------------------|---|--|------------------------------|------------------------|--|--|
| B.C. 1406. c. | Jan | d. h. m. 18 8 46 | d. h. m. 18 11 1 17 4 59 | B.C. 1403. | JAN FEB | d. h. m. 14 23 56 13 12 40 | d. h. m. 14 20 38 13 7 41 |
| April. d. h. m. 3 13 18 | FEB MAR APRIL MAY . | 16 21 30 18 10 15 16 22 59 16 11 43 | 18 21 7 17 10 41 16 21 43 | April. d. h. m. 3 6 45 | MAR APRIL MAY . JUNE . | 15 1 25 13 14 9 13 2 53 11 15 37 | 14 19 23 13 8 10 12 22 17 11 13 27 |
| | JUNE . JULY . AUG SEPT OCT | 15 0 27 14 13 11 13 1 55 11 14 39 11 3 28 | 15 6 45 14 14 48 12 22 52 11 7 48 10 18 13 | | JULY . AUG SEPT OCT | 11 4 21 9 17 5 8 5 49 7 18 83 | 11 5 8 9 20 40 8 11 27 8 1 15 |
| 4405 | Nov Dec | 9 16 7 9 4 51 | 9 6 23 8 20 27 | 1402. | DEC | 6 7 17 5 20 1 4 8 45 | 6 13 57 6 1 36 4 12 14 |
| 1405. B.A. | Jan Feb Mar | 7 17 35 6 6 19 6 19 3 | 7 12 7 6 4 53 6 21 52 | E. | FER MAR | 2 21 29 4 10 13 | 2 21 59 4 7 15 |
| 2 19 7 | MAY . JUNE . JULY . | 5 7 47 4 20 31 3 9 15 2 21 59 | 5 14 10 5 4 56 3 17 46 3 4 48 | 3 12 34 | MAY . June . | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| | AUG | $ \begin{cases} 1 & 10 & 43 \\ 30 & 28 & 27 \\ 29 & 12 & 11 \end{cases} $ | 1 14 39 31 0 5 29 9 50 | | JULY . AUG SEPT | 80 1 58 28 14 87 27 8 21 | 29 21 37 28 14 42 27 7 49 |
| | Oct Nov Dec | 29 0 55 27 18 39 27 2 23 | 28 20 17 27 7 38 26 19 55 | | Nov Dec | 26 16 5 25 4 49 24 17 38 | 1 |
| 1 404. G. | Jan Feb Mar | 25 15 7 24 3 51 25 16 36 | 25 9 11 23 23 29 25 14 38 | 1401. D.C. | JAN FEB MAR | 28 6 18 21 19 2 22 7 46 | 21 23 25 |
| 3 0 56 | MAY . June . | 24 5 20 23 18 4 22 6 48 | 24 6 14 23 21 36 22 12 7 | 2 18 23 | | 20 20 30 20 9 14 18 21 58 | 20 15 17 19 28 51 18 10 10 |
| • | Aug Sept | 21 19 32 20 8 16 18 21 0 18 9 44 | 20 13 40 19 1 5 | | AUG SEPT | 18 10 42 16 28 26 15 12 10 15 0 54 | 16 14 85 15 8 17 |
| | Nov DEC | 16 22 28 | 16 22 59 | | Nov | 13 13 38 | 18 21 17 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|--|--|---|--|--|--|---|
| B.C. 1400. B. April. d. h. m. 8 0 11 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | d. h. m. 11 15 6 10 3 50 11 16 85 10 5 19 9 18 3 8 6 47 7 19 81 6 8 15 4 20 59 4 9 43 2 22 27 { 2 11 11 81 23 55 | d. h. m. 12 | B.C. 1397. F.E. April. d. h. m. 2 17 38 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT | d. h. m. 9 6 16 7 19 0 8 7 45 6 20 29 6 9 13 4 21 57 4 10 41 2 23 25 1 12 9 {1 0 58 30 18 37 29 2 21 | d. h. m. 9 5 86 7 23 50 8 16 52 7 7 42 6 19 59 5 6 0 4 14 36 2 22 44 { 1 7 20 30 17 6 30 4 27 28 17 30 |
| 1399. A. 3 6 0 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 80 12 39 (1 1 23 (80 14 7 29 2 51 28 15 35 27 4 19 26 17 3 25 5 47 23 18 31 23 7 15 21 19 59 | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 1396. D. 2 23 27 | DEC JAN FEB MAR APRIL MAY . JULY . AUG SEPT OCT NOV DEC | 28 15 5 27 3 49 25 16 83 27 5 17 25 18 1 25 6 45 23 19 29 23 8 18 21 20 57 20 9 41 19 22 25 18 11 9 17 28 53 | 28 8 13 27 0 15 25 16 59 27 9 34 26 1 6 25 14 57 24 3 1 23 18 36 21 23 24 20 9 8 19 19 22 18 6 18 17 18 1 |
| 1398. 6. 8 11 49 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 12 16 4 11 4 48 | 18 22 42 20 12 21 18 23 5 18 7 85 16 14 50 15 21 59 14 6 2 12 15 49 12 3 56 3 10 18 34 | 1395. c. 3 5 16 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 16 12 88 15 1 22 16 14 6 15 2 50 14 15 84 18 4 18 12 17 2 11 5 46 9 18 80 9 7 14 7 19 58 7 8 42 | 16 6 84 14 20 8 16 10 30 15 1 48 14 17 12 13 8 17 12 22 26 11 11 29 9 28 31 9 10 56 7 22 1 7 8 58 |

| ٧ | Mean Ternal Juinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|---------------------------|--------|----------------------|----------------------|----------------------------|------------|----------------------|---|
| | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| | B.C. 394. | JAN | 5 21 26 | 5 19 34 | B.C. 1391. | JAN | 2 12 36 | 3 1 24 |
| | в. | FEB. | 4 10 10 | 4 6 12 | E. | FEB | 1 1 20 | 1 14 3 |
| Ą | pril. | MAR. | 5 22 54 | 5 17 13 | April. d. h. m. | MAR | 2 14 4 | 3 0 6 |
| | h. h. m 11 4 | APRIL | 4 11 38 | 4 5 8 | 3 4 31 | Anner | 51 248 | 1 8 7 |
| | | MAY . | 4 0 22 | 3 18 23 | 9 4 51 | APRIL | \30 15 32 | 30 15 6 |
| | | June . | 2 13 6 | 2 8 59 | | MAY . | 30 4 16 | 29 22 0 |
| | | - | (2 1 50 | 2 0 33 | | June . | 28 17 0 | 28 5 59 |
| | | July . | 31 14 34 | 31 16 27 | | July. | 28 5 44 | 27 16 5 |
| | | Aug | 30 3 18 | 30 7 57 | | Aug | 26 18 28 | 26 5 5 |
| | | SEPT | 28 16 2 | 28 22 34 | | SEPT | 25 7 12 | 24 21 9 |
| | | Oct | 28 4 46 | 28 12 3 | | Ост | 24 19 56 | 24 15 39 |
| | | Nov | 26 17 30 | 27 0 20 | | Nov | 23 8 40 | 23 11 13 |
| | | DEC | 26 6 14 | 26 11 26 | | DEC. | 22 21 24 | 23 6 11 |
| | | 1_ | | 04.04.00 | 1000 | Tur | 21 10 8 | 21 23 1 |
| | 1393. a.g. | JAN. | 24 18 59 | 24 21 28 | 1390. | JAN FEB | 19 22 52 | 20 12 58 |
| | A.G. | FEB | 23 7 43 | 28 6 42 | | MAR. | 21 11 37 | 21 23 44 |
| | | MAR | 23 20 27 | 23 15 42 | 3 10 20 | APRIL | 20 0 21 | 20 8 11 |
| | 2 16 58 | APRIL | 22 9 11 | 22 1 19 | 3 10 20 | MAY. | 19 13 5 | 19 15 11 |
| | | MAY . | 21 21 55 | 21 12 25 | ll . | JUNE . | 18 1 49 | 17 21 52 |
| | | June . | 20 10 39 | 20 1 33 | | JULY . | 17 14 33 | 17 5 18 |
| | | JULY . | 19 23 28 | | | Aug. | 16 3 17 | 15 14 89 |
| | | Aug. | | | | SEPT. | 1.10 1 | 14. 2 2 |
| | | SEPT. | | 17 3 9 16 20 11 | | OCT. | | 13 17 |
| 1 | | Oct. | 1 | | | Nov. | | 12 10 3 |
| | | Nov. | 1 | 1 | | DEC. | | 12 5 3 |
| | | DEC. | . 14 15 3 | 15 1 41 | | 220. | | |
| | 1392. | JAN- | . 13 3 47 | 13 13 23 | 1389. | JAN. | . 10 18 58 | |
| | F. | FEB. | . 11 16 31 | 11 23 9 | C.B. | Гев. | 9 7 42 | 1 |
| | | MAR. | | 13 7 30 | | MAR. | 9 20 26 | 1 |
| | 2 22 42 | | | 11 15 8 | 2 16 9 | APRIL | 8 9 10 | |
| | | May | | 1 10 23 2 | | MAY | 1 | |
| | | JUNE | 1 | 9 8 16 | | June | | |
| | | JULY | 0.046 | 8 19 47 | | July | | |
| | | Aug. | | 7 10 2 | : | Aug. | 1 | |
| | | SEPT. | | 6 2 55 | | SEPT. | | |
| | | | . 5 22 2 | 4 5 21 28 | 3 | Ост. | . 2 13 34 | $\left\{ $ |
| | | Nov. | . 4 11 | 8 4 16 19 | | Nov. | $\int 1 21$ | 8 |
| | | DEC. | . 3 23 5 | 2 4 9 59 |) | | (B) To | 2 30 6 5 |
| 1 | | | | | | DEC. | . 30 3 4 | 8 30 0 2 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--|--|--|--|--|--|--|
| B.C. 1388. A. April. d. h. m. 2 21 57 | JAN FEB MAR APRIL MAY . JUNE . JULY . | d. h. m. 28 16 30 27 5 14 28 17 58 27 6 42 26 19 26 25 8 10 24 20 54 | d. h. m. 28 18 31 27 12 7 29 4 2 27 17 35 27 4 45 25 14 6 24 22 32 | B.C. 1385. E.D. April. d. h. m. 2 15 24 | Jan Feb Mar April May . June . July . | d. h. m. 26 7 40 24 20 24 25 9 8 28 21 52 28 10 36 21 28 20 21 12 4 | d. h. m. 26 5 4 24 15 34 25 2 40 23 14 59 28 4 47 21 19 57 21 11 55 |
| | Aug Sept Oct Nov Dec | 23 9 38 21 22 22 21 11 6 19 23 50 19 12 34 | 28 7 0 21 16 18 21 2 56 19 15 7 19 4 52 | | Aug Sept Oct Nov Dec | 20 0 48 18 13 32 18 2 16 16 15 0 16 3 44 | 20 3 58 18 19 22 18 9 42 16 22 46 16 10 28 |
| 1387. G. | Jan Feb Mar | 18 1 19 16 14 3 18 2 47 | 17 20 4 16 12 15 18 4 47 | 1384. c. | JAN Feb Mar | 14 16 28 13 5 12 14 17 57 | 14 20 54 13 6 15 14 15 3 |
| 3 3 46 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 16 15 81 16 4 15 14 16 59 14 5 48 12 18 27 11 7 11 10 19 55 9 8 39 8 21 23 | 16 20 48 16 11 33 15 0 39 14 12 6 12 22 29 11 8 25 10 18 34 9 5 13 8 16 30 | 2 21 13 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 18 6 41 12 19 25 11 8 9 10 20 58 9 9 87 7 22 21 7 11 5 5 23 49 5 12 38 | 18 0 2 12 10 7 10 22 5 10 12 19 9 4 35 7 22 6 7 15 46 6 8 27 5 28 21 |
| 1386. F. | Jan Feb Mar | 7 10 7 5 22 51 7 11 36 | 7 4 25 5 17 7 7 6 49 | 1383. в. | Jan Feb Mar | 4 1 18 2 14 2 4 2 46 | 4 12 6 2 22 41 4 7 29 |
| 8 9 35 | MAY . JUNE . JULY . AUG SEPT | 6 0 20 5 18 4 4 1 48 3 14 32 2 3 16 31 16 0 30 4 44 | 5 21 26 .5 12 42 4 4 4 3 18 54 2 8 45 81 21 34 30 9 32 | 3 3 2 | APRIL MAY . JUNE . JULY . AUG SEPT | 2 15 30 2 4 14 81 16 58 30 5 42 29 18 26 28 7 10 26 19 54 | 2 15 11 1 22 40 31 7 0 29 17 14 29 6 8 27 21 52 26 15 52 |
| | Nov Dec | 29 17 28 28 6 12 27 18 56 | 29 20 57 28 7 58 27 18 38 | | OCT Nov DEC | 26 8 38 24 21 22 24 10 5 | 26 10 54 25 5 28 24 22 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|---------------------------|---|--|---|------------------------------------|--|---|
| B.C. 1382. A. April. d. h. m. | Jan Feb Mar | d. h. m. 22 22 50 21 11 84 23 0 18 | d. h. m. 23 12 11 21 23 22 23 8 11 | B.C. 1379. D. April. d. h. m. | Jan Feb Mar | d. h. m: 19 14 0 18 2 44 19 15 28 | d. h. m. 19 13 15 18 7 5 19 23 48 |
| 3 8 50 | APRIL MAY . JUNE . JULY . | 21 13 2 21 1 46 19 14 30 19 3 14 | 21 15 28 20 22 11 19 5 29 18 14 26 | 3 2 17 | APRIL MAY . JUNE . JULY . | 18 4 12 17 16 56 16 5 40 15 18 24 | 18 14 32 18 2 54 16 13 12 15 22 10 |
| | Aug Sept Oct Nov | 17 15 58 16 4 42 15 17 26 14 6 10 | 17 2 0 15 16 37 15 10 6 14 5 24 | | Aug Sept Oct Nov | 14 7 8 12 19 52 12 8 36 10 21 20 | 14 6 48 12 15 45 12 1 49 10 13 14 |
| 1381. G.F. | DEC JAN FEB | 18 18 54 12 7 89 10 20 23 | 14 0 52 12 18 54 11 10 14 | 1378. c. | JAN FEB | 10 10 4 8 22 48 7 11 32 | 10 2 7 8 16 23 7 7 50 |
| 2 14 89 | MAR APRIL MAY . JUNE . | 11 9 7 9 21 51 9 10 35 7 23 19 | 11 22 29 10 7 57 9 15 80 7 22 14 | 386 | MAR APRIL MAY . JUNE . | 9 0 17 7 18 1 7 1 45 5 14 29 | 9 0 2 7 16 13 7 7 39 5 21 41 |
| | AUG SEPT OCT | 7 12 3 6 0 47 4 13 31 4 2 15 | 7 5 14 5 13 33 4 0 6 3 13 28 | | July . Aug Sept Oct | 5 3 13 3 15 57 2 4 41 5 1 17 25 | |
| | Nov | 2 14 59 { 2 3 43 { 31 16 27 | 2 5 39 2 0 1 31 19 12 | | Nov Dec | (81 6 9 29 18 58 29 7 37 | 29 15 15 29 2 41 |
| 1380. E. | Jan Feb Mar | 30 5 11 23 17 55 30 6 39 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 1377. B.A. | Jan Feb Mar | 27 20 21 26 9 5 26 21 49 | 26 3 36 26 17 28 |
| 2 20 28 | APRIL MAY. JUNE. JULY. | 28 19 23 28 8 7 26 20 51 26 9 35 | 29 6 18 28 14 53 26 22 21 26 5 47 | 2 13 55 | MAY . JUNE . JULY . | 25 10 88 24 23 17 23 12 1 23 0 45 | 24 23 36 28 14 52 23 5 29 |
| | Aug Sept Oct | 24 22 19 23 11 3 22 23 47 21 12 31 | 24 14 9 23 0 12 22 12 26 21 2 58 | | Aug Sept Oct Nov | 21 13 29 20 2 13 19 14 57 18 3 41 | 20 7 46 |
| | Nov DEC | 21 12 51 21 1 15 | 20 19 29 | | DEC | 17 16 25 | 17 17 47 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|-------------|----------------------|----------------------|----------------------------|--------|---|----------------------|
| B.C. | * | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| 1376. | Jan | 16 5 9 | 16 4 9 | 1373. | JAN | 13 20 20 | 14 9 89 |
| G. | Г ев | 14 17 58 | 14 14 18 | D.C. | FEB | 12 9 4 | 12 22 9 |
| d. h. m. | MAR | 16 6 38 | 16 0 46 | April. $d. h. m.$ | MAR | 12 21 48 | 13 7 57 |
| 2 19 43 | APRIL | 14 19 22 | 14.12 9 | 2 13 10 | APRIL | 11 10 32 | 11 15 46 |
| | MAY . | 14 8 6 | 14 1 1 | | MAY . | 10 23 16 | 10 22 34 |
| | JUNE. | 12 20 50 | 12 15 29 | | June . | 9 12 0 | 9 5 25 |
| | July. | 12 9 34 | 12 7 13 | | July. | 9 0 44 | 8 13 26 |
| | Aug | 10 22 18 | 10 23 33 | | Aug | 7 13 28 | 6 28 39 |
| | SEPT. | 9 11 2 | 9 15 37 | | SEPT | 6 2 12 | 5 12 48 |
| | Ост | 8 23 46 | 9 6 50 | | Oct | 5 14 56 | 5 5 0 |
| | Nov | 7 12 30 | 7 20 44 | | Nov | 4 8 40 | 3 23 35 |
| | DEC | 7 1 14 | 7 9 13 | | DEC | 3 16 24 | 8 19 12 |
| 1375. F. | JAN FEB | 5 13 59 4 2 43 | 5 20 14 4 5 54 | 1372. | Jan | $\begin{cases} 2 & 5 & 8 \\ 81 & 17 & 52 \end{cases}$ | 2 14 5 |
| | MAR. | 5 15 27 | 5 14 41 | В. | FEB | ••• | 1 6 49 |
| 3 1 32 | | 4 4 11 | 3 23 14 | | | ſ 2 6 37 | 2 20 38 |
| 0 - 0. | MAY . | 3 16 55 | 3 8 27 | | MAR. | \81 19 21 | (1715 |
| | June . | 2 5 39 | 1 19 16 | 2 18 59 | APRIL | 30 8 5 | (80 15 86 |
| | 002.2 | (11823 | | | MAY . | 29 20 49 | 29 22 87 |
| | JULY | 31 7 7 | | | JUNE . | 28 9 33 | 28 5 25 |
| | Aug. | | 00 20 22 | | JULY. | 27 22 17 | 27 18 8 |
| | SEPT. | 1 | | i. | Aug | 26 11 1 | 25 22 81 |
| | Ост. | | | 1 | SEPT | 24 23 45 | 24 10 82 |
| | Nov. | . 26 10 8 | 26 20 26 | | Ост | 24 12 29 | 24 1 21 |
| | DEC. | . 25 22 47 | 1 | | Nov | 23 1 13 | 22 18 48 |
| 40-4 | _ | | | | DEC | 22 13 57 | 22 18 82 |
| 1374. E. | Jan. | | | 1371. | JAN. | 21 2 41 | 21 8 25 |
| | 1 | . 23 0 15 | | A. | FEB. | 19 15 25 | 20 1 50 |
| 3 7 2 | MAR. | 1 | | | MAR. | 21 4 9 | 21 16 45 |
| 0 12 | MAY | | | 3 0 48 | APRIL | 19 16 58 | 20 4 49 |
| | JUNE | | 1 | | MAY. | 19 5 87 | 19 14 24 |
| | July | | 1 | | JUNE . | 17 18 21 | 17 22 24 |
| | Aug. | | | | JULY. | 17 7 5 | 17 5 51L |
| | SEPT. | _ | | 1 | Aug. | 15 19 49 | 15 18 50 |
| | Oct. | | 7 17 5 15 | | SEPT. | 14 8 33 | 18 28 7 |
| | Nov. | 1 | | | Ocr | 13 21 17 | 13 10 19 |
| | DEC. | . 15 73 | | I | Nov. | 12 10 1 | 11 28 42 |
| | | | | 1 | DEC. | 11 22 45 | 11 15 10 |
| 1- | | | | 1 | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon, | True New Moon. |
|----------------------------|-------------|--|--|---|--------|----------------------|----------------------|
| B.C. 1370 | Jan | d. h. m. | d. h. m. 10 8 13 | B.C. 1367. | Jan | d. h. m. 7 2 40 | d. h. m. 7 3 23 |
| G. | FEB | 9 0 13 | 9 1 53 | c. | FEB | 5 15 24 | 5 13 23 |
| April. | MAR. | 10 12 58 | 10 19 7 | April. | MAR | 7 4 8 | 6 23 21 |
| d. h. m. 3 6 36 | APRIL | 9 1 42 | 9 10 50 | $\begin{array}{cccc} d. & h. & m. \\ 3 & 0 & 3 \end{array}$ | APRIL | 5 16 52 | 5 9 54 |
| 5 0 00 | MAY. | 8 14 26 | 9 0 26 | | May . | 5 5 36 | 4 21 46 |
| | June . | 7 3 10 | 7 11 47 | | June. | 3 18 20 | 3 11 20 |
| | JULY. | 6 15 54 | 6 21 30 | | July. | 3 7 4 | 3 2 33 |
| | | 5 4 38 | 5 6 22 | | | (1 19 48 | 1 18 50 |
| | Aug Sept | 3 17 22 | 3 15 17 | | Aug | 31 8 32 | 31 11 23 |
| | | 3 6 6 | 3 0 59 | | SEPT. | 29 21 16 | 30 3 23 |
| 1 1 9 | Oct | | (1 11 46 | | OCT. | 29 10 0 | 29 18 13 |
| | Nov | 1 18 50 | $\begin{cases} 30 & 23 & 52 \\ 30 & 23 & 52 \end{cases}$ | | Nov. | 27 22 44 | 28 7 34 |
| | DEC | $\begin{cases} 1 & 7 & 34 \\ 90 & 90 & 19 \end{cases}$ | 80 13 16 | | DEC. | 27 11 28 | 27 19 15 |
| | | 130 20 18 | 90 19 10 | | DEC. | 2. 11 20 | |
| 1369. | JAN | 29 9 2 | 29 3 53 | 1366. | JAN | 26 0 12 | 26 5 26 |
| F.E. | FEB | 27 21 46 | 27 19 29 | В. | FEB | 24 12 56 | 24 14 25 |
| | MAR. | 28 10 31 | 28 11 33 | | MAR | 26 1 40 | 25 22 45 |
| 2 12 25 | APRIL | 26 23 15 | 27 3 20 | 3 5 52 | APRIL | 24 14 24 | 24 7 18 |
| 2 12 20 | MAY. | 26 11 59 | 26 18 8 | | MAY . | 24. 3 8 | 23 17 4 |
| | June . | 25 0 43 | 25 7 32 | | JUNE . | 22 15 52 | 22 4 53 |
| | JULY . | 24 18 27 | 24 19 30 | | JULY. | 22. 4 36 | 21 19 10 |
| | Aug | 23 2 11 | 23 6 26 | | Aug | 20 17 20 | 20 11 41 |
| | SEPT. | 21 14 55 | 21 16 55 | li . | SEPT | 19 6 4 | 19 5 37 |
| | Oct. | 21 3 39 | 21 3 25 | | Oct | 18 18 48 | 18 23 44 |
| | Nov. | 19 16 28 | 19 14 13 | | Nov. | 17 7 32 | 17 16 4 9 |
| | DEC. | 10 5 7 | 19 1 18 | 1 | DEC | 16 20 16 | 17 7 54 |
| | DEC. | 10 0 . | 10 2 10 | | | | 15 00 04 |
| 1368. | JAN. | 17 17 51 | 17 12 49 | 1365. | JAN | 15 9 0 | 15 20 34 |
| D. | FEB. | 16. 6 35 | 16 0 57 | A.G. | FEB | 13 21 44 | 14 6 55 14 15 25 |
| | MAR. | 17 19 19 | 17 14 0 | 11 | Mar. | 14 10 29 | |
| 2 18 14 | APRIL | 16 8 8 | 16 4 7 | 2 11 41 | | 12 23 13 | 12 22 47 |
| | MAY | . 15 20 47 | 15 19 8 | 3 | MAY . | 12, 11 57 | |
| | JUNE | . 14 9 31 | 14 10 33 | 3 | JUNE . | | |
| | July | . 13 22 15 | 14 1 48 | 3 | July . | | 1 |
| | A.vg. | . 12 10 59 | 12 16 8 | 3 | Aug. | | l . |
| | SEPT. | . 10 23 49 | 11 5 8 | 3∥ | SEPT. | | |
| | Ocr. | . 10 12 27 | 10 18 4 | Ł | Oct. | 7. 3 37 | |
| | Nov. | . 9 1 11 | 9 5 49 | ∌ ∥ | Nov. | | |
| | DEC. | . 8 13 5 | 8 16 54 | 1 | DEC. | . 555 | 5 13 37 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon, |
|----------------------------|------------|----------------------|----------------------|----------------------------|--------|--|----------------------|
| B.C. | | d. h. m. | d. h. m. | _ | | d. h. m. | d. h. m. |
| 1364. F. | JAN Feb | 3 17 49 2 6 33 | 4 6 22 | B.C. 1361. | Jan | $\begin{cases} 1 & 8 & 59 \\ 30 & 21 & 48 \end{cases}$ | 1 8 84 80 20 47 |
| April. | | | 2 20 16 | C.B. | | | |
| d. h. m. | MAR | 3 19 18 | 4 7 17 | April. | FEB | 29 10 28 | 29 14 11 |
| 2 17 29 | APRIL | 2 8 2 | 2 15 58 | d. h. m. | MAR. | 29 28 12 | 80 6 87 |
| | MAY . | 1 20 46 | 1 22 59 | 2 10 56 | APRIL | 28 11 56 | 28 21 16 |
| | | (31 9 30 | 31 5 37 | | MAY . | 28 0 40 | 28 9 48 |
| | JUNE. | 29 22 14 | 29 12 56 | | JUNE . | 26 18 24 | 26,20 25 |
| | JULY. | 29 10 58 | 28 22 0 | 1 | July. | 26 2 8 | 26 5 50 |
| , | Aug | 27 23 42 | 27 9 42 | | Aug | 24 14 52 | 24 14 52 |
| 1 | SEPT | 26 12 26 | 26 0 29 | | SEPT | 23 3 36 | 28 0 18 |
| | Oct | 26 1 10 | 25 18 3 | | Ocr | 22 16 20 | 22 10 88 |
| | Nov | 24 13 54 | 24 13 22 | | Nov | 21 5 4 | 20 22 5 |
| | DEC | 24 2 38 | 24 8 47 | | DEC | 20 17 48 | 20 10 41 |
| 1363. | Jan | 22 15 22 | 23 2 41 | 1360. | Jan | 19 6 32 | 19 0 28 |
| E. | FEB. | 21 4 6 | 21 17 52 | A. | FEB | 17 19 16 | 17 15 19 |
| | MAR. | 22 16 50 | 23 5 58 | 1 | MAR. | 19 8 0 | 19 6 57 |
| 2 23 18 | APRIL | 21 5 34 | 21 15 21 | 2 16 45 | APRIL | 17 20 44 | 17 22 47 |
| | MAY. | 20 18 18 | 20 22 54 | uu =0 | MAY. | 17 9 28 | 17 14 9 |
| , | June . | 19 7 2 | 19 5 43 | | JUNE . | 15 22 12 | 16 4 24 |
| 1 | JULY . | | 18 12 55 | 1 | JULY. | 15 10 56 | 15 17 16 |
| | Aug | | 16 21 29 | | Aug | 13 23 40 | 14 4 55 |
| | SEPT | | 15 8 15 | | SEPT. | 12 12 24 | 12 15 50 |
| 1 | Oct | . 15 9 58 | | | Oct. | 12 12 24 | 12 13 30 |
| | Nov. | | | | Nov. | 10 13 52 | 10 18 15 |
| | DEC. | 10.11 | 13 8 1 | | DEC | 10 13 32 | 10 0 9 |
| 1362. | Jan. | . 12 0 10 | 12 2 54 | 1359. | Jan | 8 15 21 | 8 11 17 |
| D. | Fев | | 0- | G. | FEB. | 7 4 5 | 6 22 48 |
| | Mar. | i i | - | - | MAR. | 8 16 49 | 8 11 8 |
| 3 5 7 | 1 | 1 | | 2 22 34 | APRIL | 7 5 38 | 7 0 22 |
| | MAY | - | | U± | MAY . | 6 18 17 | 6 14 48 |
| | JUNE | | 1 | | June . | 5 7 1 | 5 6 4 |
| | JULY | | 1 | | JULY. | 4 19 45 | 4 21 88 |
| 1 | Aug. | 1 | | | Aug. | 8 8 29 | 8 12 88 |
| + | SEPT. | . 5 6 8 | 1 | | SEPT. | 1 21 18 | 2 2 52 |
| | Oct. | 4 18 47 | 1 | | | (1 9 57 | 1 16 7 |
| 1 | Nov. | . 3 7 31 | 1 | | Oct | 30 22 41 | 81 4 26 |
| | DEC. | 2 20 15 | | 11 | Nov | 29 11 25 | 29 15 55 |
| | ſ | | | | DEC. | 29 11 25 | 29 15 55 |
| | <u> </u> | | 1 | 11 | -200. | 20 0 9 | 20 401 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|---|---|----------------------------|---------|----------------------|----------------------|
| | | d. h. m. | d. hm. | B.C. | | d. h. m. | d. h. m. |
| B.C. 1358. | JAN. | 27 12 53 | 27 12 39 | 1355. | JAN | 24 4 4 | 24 17 45 |
| F. | FEB. | 26 1 37 | 25 22 18 | В. | FEB | 22 16 48 | 23 6 5 |
| April. | MAR. | 27 14 22 | 27 8 13 | April. $d. h. m.$ | MAR | 24 5 32 | 24 15 41 |
| d. h. m. 3 4 23 | APRIL | 26 3 6 | 25 19 8 | 2 21 49 | APRIL | 22 18 16 | 22 23 19 |
| | MAY . | 25 15 50 | 25 7 40 | | MAY . | 22 7 0 | 22 6 0 |
| | June . | 24 4 34 | 23 22 3 | | June. | 20 19 44 | 20 12 52 |
| | JULY. | 23 17 18 | 23 14 0 | | July . | 20 8 28 | 19 20 58 |
| | Aug | 22 6 2 | 22 6 45 | | Aug | 18 21 12 | 18 7 21 |
| | SEPT | 20 18 46 | 20 23 24 | | SEPT | 17 9 56 | 16 20 40 |
| | Ocr | 20 7 30 | 20 15 9 | | Oct | 16 22 40 | 16 12 58 |
| | Nov | 18 20 14 | 19 5 26 | | Nov. | 15 11 24 | 15 7 36 |
| | Dec | 18 8 58 | 18 18 0 | | DEC | 15 0 8 | 15 3 8 |
| 1357. | JAN | 16 21 42 | 17 4 51 | 1354. | JAN | 13 12 52 | 13 21 54 |
| E.D. | FEB. | 15 10 26 | 15 14 11 | A. | FEB | 12 1 36 | 12 14 27 |
| | MAR. | 15 23 10 | 15 22 33 | | MAR | 13 14 20 | 14 4 2 |
| 2 10 11 | APRIL | 14 11 54 | . 14 6 40 | 3 3 38 | APRIL | 12 3 4 | 12 14 38 |
| 2 10 11 | May . | 14 0 38 | 13 15 32 | | MAY . | 11 15 48 | 11 22 58 |
| | JUNE. | 12 13 22 | 12 2 8 | | JUNE . | 10 4 32 | 10 6 4 |
| | JULY . | 12 2 6 | 11 15 9 | | July . | 9 17 16 | 9 13 2 |
| | Aug. | 10 14 50 | 10 6 43 | | Aug | 8 6 0 | 7 20 56 |
| | SEPT | 9 3 34 | 9 0 15 | | SEPT | 6 18 44 | |
| | Oct | 8 16 18 | 8 18 39 | | Ocr | 6 7 28 | 1 |
| | Nov. | 7 5 2 | 7 12 35 | 1 | Nov | 4 20 12 | |
| | DEC | 6 17 46 | 7 4 58 | | DEC | 4 8 56 | 4 2 4 |
| 1356. | JAN | 5 6 80 | 5 18 47 | 1353. | JAN | 2 21 40 | 2 21 2 |
| C. | FEB | 3 19 14 | 4 6 11 | G.F. | FEB | 1 10 2 | 1 155 |
| | MAR. | 5 7 59 | 5 15 22 | | Man | | 9 2 9 |
| 2 16 0 | | 3 20 49 | 3 23 2 | : | MAR. | रिश्च 11 5 | 8 81 28 4 |
| | MAY . | 3 9 2 | 7 365 | 2 9 2 | 7 APRIL | 30 0 3 | |
| | June . | 1 22 1 | | | MAY . | . 29 13 2 | 1 29 21 8 |
| | | (1 10 5 | [\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 3 | JUNE . | . 28 2 | 5 28 55 |
| | July . | $\begin{cases} 30 & 23 & 3 \end{cases}$ | | ullet | July . | | |
| | Aug. | . 29 12 2 | 3 29 0 45 | 2 | Aug. | 1 | |
| | SEPT. | 28 1 | | 2 | SEPT. | | |
| | Ост. | 27 13 5 | | 7 | Ост. | | 1 23 18 5 |
| | Nov. | l . | | 11 | Nov. | • | 5 22 8 3 |
| 1 | DEC. | . 25 15 1 | 9 26 2 2 | B | DEC. | . 22 6 2 | 9 21 23 2 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|--|---|--------|----------------------|----------------------------|
| B.C. 1352. | Jan | d. h. m. 20 19 13 | d. h. m. 20 15 58 | B.C. 1349. | Jan | d. h. m. 18 10 23 | d. h. m. 18 12 1 |
| E | FEB | 19. 7 57 | 19 9 8 | B.A. | FEB | 16 23 7 | 16 21 34 |
| April. $d. h. m.$ | MAR | 20 20 41 | 21 1 57 | $\begin{array}{c c} April. \\ d. h. m. \end{array}$ | MAR | 17 11 51 | 17 7 0 |
| 2 15 15 | APRIL | 19 9 25 | 19 17 30 | 2 8 42 | APRIL | 16 0 35 | 15 17 4 |
| | MAY . | 18 22 9 | 19 7 10 | | MAY . | 15 13 19 | 15 4 33 |
| | June . | 17 10 53 | 17 18 51 | | June . | 14 2 3 | 13 17 56 |
| | JULY . | 16 23 37 | 17 4 58 | | JULY . | 13 14 47 | 13 9 13 |
| | Aug | 15 12 21 | 15 14 19 | | Aug | 12 3 31 | 12 1 50 |
| | SEPT | 14 1 5 | 13 23 43 | | SEPT | 10 16 15 | 10 18 55 |
| | Oct | 13 13 49 | 13 9 44 | | Ост | 10 4 59 | 10 11 29 |
| | Nov | 12 2 33 | 11 20 39 | | Nov. | 8 17 43 | 9 2 45 |
| | DEC | 11 15 17 | 11 8 35 | | Dec | 8 6 27 | 8 16 18 |
| 1351. | JAN | 10 4 2 | 9 21 35 | 1348. | Jan | 6 19 11 | 7 3 56 |
| D' | FEB | 8 16 46 | 8 11 37 | G. | FEB | 5 7 56 | 5 13 52 |
| | MAR. | 10 5 30 | 10 2 37 | | MAR | 6 20 40 | 6 22 27 |
| 2 21 4 | APRIL | 8 18 14 | 8 18 12 | 2 14 31 | APRIL | 5 9 24 | 5 6 22 |
| | MAY . | 8 6 58 | 8 9 47 | | MAY . | 4 22 8 | 4 14 84 |
| | JUNE . | 6 19 42 | 7 0 43 | | June . | 3 10 52 | 80 8 |
| | JULY . | 6 8 26 | 6 14 28 | | JULY . | 2 23 36 | 2 11 47 |
| | Aug. | 4 21 10 | 5 2 58 | , | A === | 5 1 12 20 | 1 2 8 |
| | SEPT. | 3 9 54 | 3 14 29 | | Aug | 31 1 4 | 30 18 56 |
| | Oct. | 2 22 38 | 3 1 29 | | SEPT | 29 13 48 | 29 13 1 |
| | Nov. | . 1 11 22 | \[\begin{array}{c} 1 12 19 \\ 20 20 10 \end{array} \] | | Oct | 29 2 32 | 29 7 4 |
| | DEC. | [106 | \\ 30 23 10 | ll . | Nov | 27 15 16 | 28 1 1 |
| | | 30 12 50 | 30 10 2 | ļļ | DEC | 27 4 0 | 27 16 2 |
| 1350. c. | Jan. | / | | 1347. | JAN | 25 16 45 | 26 4 5 |
| | FEB. | | | F. | FEB | 24 5 29 | 24 15 |
| | MAR. | | | | MAR | 25 18 13 | 25 28 1 |
| 3 2 5 | | | | | APRIL | 24 6 57 | 24 6 2 |
| | MAY | | 1 | | MAY . | 23 19 41 | 28 18 2 |
| | JUNE | | | H | JUNE . | 22 8 25 | 21 21 2 |
| | JULY | | | 11 | JULY . | 21 21 9 | 21 7 4 |
| | Ave. | | | 11 | Aug | 20 9 53 | 19 20 4 |
| | SEPT. | | | 11 | SEPT | 18 22 37 | 18 12 5 |
| 1 | Oct. | . 21 20 11 | | 14 | Oct | 18 11 21 | 18 7 2 |
| | | . 20 8 5 | | 11 | Nov | 17 0 5 | 17 2 5 |
| ł | DEC. | . 19 21 3 | 9 20 148 | 3 | DEC. | 16 12 49 | 16 21 4 |

| _ | JERUSALEM CIVIL TIME. | | | | | | | | | | | |
|---|--|---|---|--|---|--|--|--|--|--|--|--|
| Lean ernsi luinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | | | | | |
| 3.C. 346. E. April. . A. m. | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | d. h. m. 15 1 38 13 14 17 15 8 1 13 15 45 13 4 29 11 17 13 11 5 57 9 18 41 8 7 25 7 20 9 6 8 53 | d. h. m. 15 14 26 14 4 18 15 15 1 13 28 27 13 6 25 11 13 4 10 20 28 9 5 42 7 17 33 7 8 27 6 2 5 | B.C. 1343. A. April. d. h. m. 2 19 35 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov | d. h. m. 11 16 48 10 5 27 11 18 11 10 6 55 9 19 39 8 8 28 7 21 7 6 9 51 4 22 35 4 11 19 3 0 3 | d. h. m. 11 11 32 10 4 13 11 21 6 10 18 16 10 3 56 8 16 41 8 3 42 6 13 35 4 23 8 4 8 59 2 19 81 | | | | | |
| 1345. D.c. 2 75 | JAN FEB MAR | 5 21 37 4 10 22 2 23 6 3 11 50 2 0 34 (1 13 18 31 2 2 29 14 46 29 3 30 27 16 14 26 4 56 1 25 17 44 1 24 6 2 | 5 21 19 4 16 36 3 10 19 4 1 21 2 13 20 3 1 22 41 2 13 1 6 18 2 29 18 18 2 29 20 44 2 7 5 36 3 25 16 38 2 25 6 6 2 38 22 | 8 1 24 8 3 5 5 7 7 8 | JAN FEB MAR APRIL MAY - JUNE JULY AUG. SEPT. OCT. Nov. DEC. | 1 3 0 80 15 44 29 4 28 28 17 12 27 5 56 26 18 40 25 7 24 23 20 8 28 8 5 21 21 3 | 30 13 46 29 5 19 28 20 88 3 27 11 9 0 27 0 81 4 25 12 46 3 24 0 15 2 28 11 19 6 21 22 18 | | | | | |
| 1344 B. 22 18 | JAN. FEB. MAR. | 22 7 5 20 20 3 22 9 2 20 10 5 18 28 5 18 12 1 17 1 15 18 6 15 2 5 13 15 | 4 22 10 2 8 21 4 1 18 22 20 1 7 21 9 8 61 20 20 8 85 19 5 8 19 18 18 8 16 21 4 47 15 6 8 14 17 9 | 7 F.E. 5.5 99 2 7 3 32 32 332 48 8 552 26 44 | JAN. FEB. MAR. APRI MAY JUNE JULY AUG SEPT OCT. NOV | . 18 11 4 . 19 0 8 . 17 13 1 . 17 2 . 15 14 4 7 . 15 3 5 . 13 16 1 . 12 4 . 11 17 6 | 18 18 18 24 17 7 12 1 16 21 19 15 12 32 29 15 4 18 13 19 52 57 12 10 44 41 12 0 88 | | | | | |

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| Mean Ternal quinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
| 20 | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| B.C. | JAN | 15 1 33 | 15 14 26 | 1343. | JAN | 11 16 43 | 11 11 32 |
| E. | FEB | 13 14 17 | 14 4 13 | Α. | FEB | 10 5 27 | 10 4 13 |
| April. | MAR | 15 3 1 | 15 15 1 | April. $d. h. m.$ | MAR. | 11 18 11 | 11 21 6 |
| d. h. m. 3 2 8 | APRIL | 13 15 45 | 13 23 27 | 2 19 35 | APRIL | 10 6 55 | 10 13 16 |
| | MAY . | 13 4 29 | 13 6 25 | | MAY . | 9 19 39 | 10 3 56 |
| | JUNE . | 11 17 13 | 11 13 4 | | JUNE . | 8 8 23 | 8 16 41 |
| | JULY . | 11 5 57 | 10 20 28 | | July . | 7 21 7 | 8 3 42 |
| | Aug | 9 18 41 | 9 5 42 | | Aug | 6 9 51 | 6 13 35 |
| | SEPT | 8 7 25 | 7 17 33 | | SEPT | 4 22 35 | 4 23 8 |
| | Oct | 7 20 9 | 7 8 27 | | Oct | 4 11 19 | 4 8 59 |
| | Nov. | 6 8 58 | 6 2 5 | 1 | Nov. | 3 0 3 | 2 19 31 |
| | DEC | 5 21 37 | 5 21 19 | | DEC | 2 12 47 | $\begin{cases} 2 & 6 & 55 \\ 31 & 19 & 12 \end{cases}$ |
| 1345. | JAN. | 4 10 22 | | 1342. | Ján | $\begin{cases} 1 & 1 & 31 \\ 30 & 14 & 15 \end{cases}$ | 30 8 26 |
| D.C. | FEB | 2 23 6 | | G. | FEB | | 28 22 41 |
| | MAR. | | 1 | | MAR. | $\begin{cases} 1 & 3 & 0 \\ 30 & 15 & 44 \end{cases}$ | 30 13 46 |
| 2 7 57 | APRIL | 1 | | 3 1 24 | 4 APRIL | | 29 5 19 |
| | MAY | $\begin{cases} 1 & 13 & 13 \\ 3 & 1 & 3 \end{cases}$ | 2 31 6 18 | 11 | MAY | | 28 20 38 |
| | _ | 20.14.4 | | 11 | JUNE | | 27 11 9 |
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| Nov 29 3 57 29 14 6 Nov 25 19 7 | 25 15 36 |
| DEC 28 16 41 29 2 42 DEC 25 7 51 | 25 10 59 |
| 1339. Jan 27 5 25 27 13 20 1336. Jan 23 20 35 Feb 25 18 9 25 22 20 F. Feb 22 9 19 Mar 27 6 54 27 6 19 Mar 28 22 4 | 24 5 32 22 21 54 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
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| B.C. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| 1334. D. | JAN | 2 14 12 | 81 23 36 | 1331. G. | JAN | 28 18 7 | 28 20 33 |
| April. | FEB | 1 2 56 | · | April. | FEB. | 27 6 51 | 27 5 38 |
| d. h. m. | MAR | 2 15 41 | 2 16 15 | d. h. m. 2 17 20 | Mar April | 28 19 35 27 8 19 | 28 14 34 |
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| | SEPT | 25 8 49 | 25 8 16 | | Nov. | 20 1 27 | 20 11 18 |
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| | Nov | 28 10 17 | 23 5 34 | | 220 | 10 11 11 | 20 0 00 |
| | DEC | 22 28 1 | 22 17 17 | 1330. | JAN | 18 2 55 | 18 12 32 |
| 1333. | JAN | 21 11 46 | 21 5 48 | F. | FEB | 16 15 89 | 16 22 8 |
| C.B. | FEB | 20 0 30 | 19 19 14 | | Mar | 18 4 24 | 18 6 20 |
| | MAR. | 20 18 14 | 20 9 38 | 2 23 9 | APRIL | 16 17 8 | 16 13 54 |
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| | MAY . | 18 14 42 | 18 16 16 | | JUNE . | 14 18 36 | 14 7 8 |
| | JUNE . | 17 8 26 | 17 7 20 | | JULY. | 14 7 20 | 13 18 48 |
| | JULY. | 16 16 10 | 16 21 80 | | Aug | 12 20 4 | 12 9 16 |
| | Aug | 15 4 54 | 15 10 84 | | SEPT | 11 8 48 | 11 2 20 |
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| | DEC | 11 7 50 | 11 8 7 | 1329. | JAN | 7 11 44 | 8 0 44 |
| 1332. | JAN | 9 20 34 | 9 18 48 | E.D. | FEB | 6 0 28 | 6 13 10 |
| ۸. | FEB | 8 9 18 | 8 5 17 | | MAR | 6 13 12 | 6 23 1 |
| | MAR | 9 22 2 | 9 16 14 | 2 4 58 | APRIL | 5 1 56 | 5 6 54 |
| 2 11 82 | APRIL | 8 10 46 | 8 4 8 | | MAY . | 4 14 40 | 4 13 47 |
| | MAY . | 7 28 80 | 7 17 28 | | JUNE . | 8 8 24 | 2 20 43 |
| | JUNE . | 6 12 14 | 6 8 2 | | JULY . | 2 16 8 | § 2 4 48 |
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| | Aug | 4 18 42 | 4 15 40 | | Aug | (30 17 36 | 30 4 19 |
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| | Oct | 2 15 10 | 2 21 58 | | Oct | 28 19 4 | 28 15 15 |
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| T 21 44 12 | Mean Vernal Equinox, | Month. | Mean New Moon, | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
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| 1328. Jan. 25 9 16 25 22 20 34 11 58 April. d. h. m. 28 10 45 25 22 88 April. d. h. m. 28 12 13 23 13 52 June 29 20 57 21 20 34 June 20 22 5 19 18 34 Aug. 20 14 39 20 10 83 June 20 22 5 19 18 34 Aug. 20 32 3 20 10 83 June 20 22 5 19 18 34 Aug. 20 32 3 20 10 83 June 16 17 85 16 21 29 Aug. 20 22 5 19 18 34 Aug. 16 17 85 16 21 29 Aug. 20 16 5 21 16 5 14 Aug. 16 17 85 Aug. 16 17 85 Aug. 16 17 85 Aug. 16 19 9 Aug. 16 16 97 Aug. 16 16 97 Aug. 14 18 6 15 0 18 Feb. 13 6 50 18 17 47 Aug. 14 19 34 15 8 40 21 16 5 44 Aug. 11 10 48 Aug. 12 12 13 8 18 Aug. 21 12 14 8 Aug. 11 10 48 Aug. Aug. 11 10 48 Aug. | BC | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| April. d. h. m. 2 10 47 April. d. h. m. 2 10 47 April. d. h. m. 2 10 47 April. 28 28 29 24 6 55 Max . 28 12 18 23 18 52 June . 22 0 57 June . 22 0 57 June . 12 18 41 Aug 20 2 25 Sept 18 15 9 Dec 16 5 21 16 5 14 1327. B. Feb 13 6 50 April. 6 52 In 5 21 16 51 Sept 18 18 6 7 18 28 85 Nov 16 16 37 In 5 21 16 51 In 5 21 16 514 In 6 52 In 6 5 21 16 5 14 In 9 4 15 8 40 2 16 86 April. 13 8 18 13 20 35 Max . 12 21 2 18 57 June . 11 9 46 In 11 9 46 In 11 9 46 In 11 9 46 In 11 9 46 In 12 11 9 41 In 9 4 42 Sept 7 28 58 April. 6 19 15 7 81 Oct 14 19 34 In 9 4 11 18 48 July . 10 22 30 In 14 9 4 42 Sept 7 28 58 April. 6 19 15 7 81 Oct 14 19 34 In 9 4 42 Sept 7 28 58 April. 18 16 7 In 9 46 Nov 18 7 47 In 9 46 In 10 9 In 10 48 In 11 10 48 In 11 10 48 In 11 10 48 In 12 11 9 46 In 11 10 48 In | | JAN | 25 9 16 | 25 22 20 | | JAN | 23 0 26 | 22 19 24 |
| A h m. 2 10 47 | c. | FEB | 23 22 0 | 24 11 58 | | FEB | 21 13 10 | 21 11 80 |
| 2 10 47 | April. | MAR | 25 10 45 | 25 22 38 | April. d | MAR | 22 1 55 | |
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| July 21 18 41 21 4 9 Aug. 20 2 25 19 18 34 Sept. 18 15 9 18 1 36 Oct. 18 3 53 17 16 35 Nov. 16 16 37 16 10 9 Dec. 16 5 21 16 5 14 1327. Jan. 14 18 6 15 0 18 E. Feb. 18 6 50 18.17 47 Mar. 14 19 34 15 8 40 2 16 36 April 13 8 18 13 20 35 May 12 21 2 18 5 57 June 11 9 46 11 18 43 July 10 22 30 10 20 57 Aug. 9 11 14 9 44 22 Sept. 7 28 58 7 13 50 Oct. 7 12 42 7 1 2 Nov. 6 1 26 5 14 35 Dec. 5 14 10 5 6 28 May 2 22 25 April 2 17 6 3 3 8 8 May 2 25 25 50 2 16 32 May 2 29 20 29 21 24 Aug. 28 8 46 28 6 0 Sept. 26 10 14 26 2 11 Nov. 24 22 58 24 14 27 | | MAY . | 23 12 13 | 23 13 52 | | May . | 20 3 23 | 20 10 83 |
| AUG. 20 2 25 19 18 84 Sept. 18 15 9 18 1 36 Oct. 18 3 58 17 16 35 Nov. 16 16 87 16 10 9 Dec. 16 5 21 16 5 14 1327. Jan. 14 18 6 15 0 18 B. Feb. 18 6 50 18 17 47 Mar. 14 19 34 15 8 40 2 16 36 April 13 8 18 13 20 35 May 12 21 2 18 5 57 June 11 9 46 11 13 43 July 10 22 30 10 20 57 Aug. 9 11 14 9 4 42 Sept. 7 23 58 7 13 50 Oct. 7 12 42 7 1 2 Nov. 6 1 26 5 14 35 Dec. 5 14 10 5 6 23 1328. A. Feb. 2 15 38 2 17 55 Mar. 4 2 24 24 11 23 Arril 2 21 2 16 36 38 8 May 2 22 25 April 2 17 6 3 3 8 May 3 17 48 1329. Aug. 1 2 17 6 3 3 8 May 2 22 25 April 2 17 6 3 3 8 July 2 29 20 2 29 21 24 Aug. 28 8 46 28 6 0 Sept. 26 21 30 26 15 26 Oct. 26 10 14 26 2 11 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 Nov. 24 23 58 24 14 27 | | JUNE . | 22 0 57 | 21 20 34 | | June . | 18 16 7 | 18 23 35 |
| Sept. 18 15 9 18 1 36 Oct. 18 3 55 17 16 35 Nov. 16 16 6 37 16 10 9 Dec. 16 5 21 16 5 14 1327. B. Feb. 13 6 50 13 17 47 Mar. 14 19 34 15 8 40 May 12 21 2 13 5 57 June 11 9 46 June 10 22 30 10 20 57 Aug. 911 14 9 442 Sept. 7 23 58 7 13 50 Oct. 7 12 42 7 1 2 Nov. 6 1 26 5 14 35 Dec. 5 14 10 5 6 23 1328. A. Feb. 2 15 38 2 17 55 Mar. 4 4 22 Nov. 6 1 26 5 14 35 Dec. 5 14 10 5 6 23 May . 2 25 8 46 28 6 0 Sept. 2 26 21 30 26 15 26 Oct. 2 26 10 14 26 2 11 Nov. 2 4 25 8 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 11 28 41 28 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 Nov. 24 22 58 24 14 27 | | JULY. | 21 13 41 | 21 4 9 | | JULY . | 18 4 51 | 18 11 4 |
| Oct. 18 8 58 17 16 35 Nov. 16 16 37 16 10 9 DEC. 16 5 21 16 5 14 DEC. 12 20 81 12 15 46 Nov. 18 7 47 18 4 28 DEC. 16 5 21 16 5 14 DEC. 12 20 81 12 15 46 Nov. 18 7 47 18 4 28 DEC. 12 20 81 12 15 46 Nov. 18 7 47 18 4 28 DEC. 12 20 81 12 15 46 Nov. 18 7 47 18 38 12 15 46 DEC. 12 20 81 12 15 46 Nov. 18 7 47 18 38 12 15 46 DEC. 12 20 81 12 15 46 Nov. 18 7 47 18 38 12 15 46 DEC. 12 20 81 12 15 46 Nov. 18 7 47 18 38 12 15 46 DEC. 12 20 81 18 45 DEC. 12 20 81 14 14 15 15 14 15 15 14 15 15 15 DEC. 12 20 81 18 18 18 11 10 48 11 1 5 55 DEC. 12 20 81 14 12 20 11 14 14 15 15 14 15 15 DEC. 12 20 81 14 14 14 14 14 14 14 14 14 14 14 14 14 | | Aug | 20 2 25 | 19 13 34 | | Aug | 16 17 35 | 16 21 29 |
| Nov 16 16 37 16 10 9 DEC 16 5 21 16 5 14 1327. B. 14 18 6 15 0 18 FEB 13 6 50 18 17 47 MAR 14 19 34 15 8 40 APRIL 13 8 18 13 20 35 MAY . 12 21 2 13 5 57 JUNE . 11 9 46 11 18 48 JULY . 10 22 30 10 20 57 AUG 9 11 14 9 4 42 OCT 7 12 42 7 1 2 Nov 6 1 26 5 14 35 DEC 5 14 10 5 6 23 1326. A. PEB 2 15 38 21 7 55 MAR 4 2 24 4 11 23 APRIL 2 17 6 3 3 8 MAY . 2 22 25 5 0 2 16 32 JULY . 29 20 2 29 21 24 AUG 28 8 46 28 6 0 SEPT 26 21 30 26 15 26 OCT 26 10 14 26 2 11 Nov 24 22 58 24 14 27 DEC 13 7 47 18 4 28 DEC 12 20 81 DEC 12 20 81 DEC 11 9 15 11 8 48 FEB 9 21 50 9 16 18 MAR 11 10 48 11 5 55 APRIL 9 28 27 9 20 80 MAY . 9 12 11 9 11 45 JUNE . 8 0 55 8 8 7 JULY . 7 13 30 7 17 57 AUG 6 2 23 6 7 50 SEPT 4 15 7 4 20 42 OCT 4 8 51 4 8 44 Nov 2 16 35 2 20 11 DEC 5 14 10 5 6 23 DEC 5 14 10 5 6 23 JAN 4 2 54 3 23 51 FEB 2 2 15 38 MAY . 30 8 16 30 1 89 JULY . 29 20 2 2 29 12 24 AUG 28 8 46 28 6 0 SEPT 26 21 30 26 15 26 OCT 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Nov 24 22 58 24 14 27 Nov 24 22 58 24 14 27 | | SEPT | 18 15 9 | 18 1 36 | | SEPT | 1 5 6 19 | |
| Dec. 16 5 21 16 5 14 Dec. 12 20 81 12 15 46 | | Oct | 18 3 53 | 17 16 35 | | Ocr | 14 19 3 | 14 17 46 |
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| Feb 18 6 50 18 17 47 MAR 14 19 34 15 8 40 2 16 36 April. 13 8 18 13 20 35 MAY . 12 21 2 18 5 57 JUNE . 11 9 46 11 18 48 JULY . 10 22 30 10 20 57 AUG 9 11 14 9 4 42 Sept 7 23 58 7 13 50 Oct 7 12 42 7 1 2 Nov 6 1 26 5 14 35 Dec 5 14 10 5 6 23 MAR 4 2 5 4 3 23 51 Feb 2 15 38 2 17 55 MAR 4 4 22 4 11 28 April. 2 17 6 3 3 8 MAY . 2 22 25 MAY . 9 12 11 Dec 5 14 10 5 6 23 MAY . 9 12 11 Dec 5 14 10 5 6 23 MAR 4 2 5 4 3 23 51 Feb 2 15 38 2 17 55 MAR 4 2 2 4 11 28 April. 2 17 6 3 3 8 MAY . 2 5 50 2 16 32 JUNE . 30 7 18 30 6 47 30 4 9 Feb 2 15 36 7 18 50 Dec 5 10 12 54 JUNE . 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | DEC | 16 5 21 | 16 5 14 | | DEC | 12 20 81 | 12 15 46 |
| E. Feb 13 6 50 13 17 47 MAR 14 19 34 15 8 40 13 8 18 13 20 35 MAY . 12 21 2 13 5 57 JUNE . 11 9 46 11 13 43 JULY . 10 22 30 10 20 57 AUG 9 11 14 9 4 42 Sept 7 23 58 7 13 50 Oct 7 12 42 7 1 2 Nov 6 1 26 5 14 35 Dec 5 14 10 5 6 23 MAR 4 2 2 4 11 28 April 2 2 15 38 2 17 55 MAR 4 2 2 4 11 28 April 2 17 6 3 3 8 July . 29 20 2 29 21 24 Aug 28 8 46 28 6 0 Sept 26 21 30 26 15 26 Oct 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 18 8 19 Nov 28 14 44 Nov 28 8 46 28 6 0 Sept 26 21 30 26 15 26 Oct 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 18 8 10 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 18 8 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 19 Nov 21 14 8 21 22 4 Nov. | 1327. | JAN. | 14 18 6 | 15 0 18 | 1324. | JAN | 11 9 15 | 11 8 88 |
| MAR. 14 19 34 15 8 40 APRIL 13 8 18 18 20 35 MAY . 12 21 2 18 5 57 JUNE . 11 9 46 11 18 48 JULY . 10 22 30 10 20 57 AUG 9 11 14 9 442 SEPT 7 23 58 OCT 7 12 42 7 1 2 Nov 6 1 26 5 14 35 DEC 5 14 10 5 6 23 MAR 4 2 54 3 23 51 FEB 2 15 38 21 7 55 MAR 4 4 22 4 11 28 APRIL 2 17 6 3 3 8 MAY . 2 15 50 APRIL 2 17 6 3 3 8 JUNE . 30 7 18 JUNE . 30 7 18 JUNE . 29 20 2 29 21 24 AUG 28 8 46 28 6 0 SEPT 26 21 30 26 15 26 OCT 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 Nov 22 15 38 3 41 OCT 28 12 40 28 18 41 | В. | _ | | | t · | | 9 21 59 | 9 16 18 |
| 2 16 36 | | MAR. | 14 19 34 | | | MAR. | 11 10 48 | 11 5 55 |
| MAY . 12 21 2 13 5 57 JUNE . 11 9 46 11 13 48 JULY . 10 22 30 10 20 57 AUG 9 11 14 9 4 42 SEPT 7 23 58 7 13 50 OCT 7 12 42 7 1 2 Nov 6 1 26 5 14 35 DEC 5 14 10 5 6 23 MAR 4 2 54 3 23 51 FEB 2 15 38 2 17 55 MAR 4 4 22 4 11 28 APRIL 2 17 6 3 3 8 JUNE . 30 7 18 JUNE . 30 8 16 30 1 39 APRIL 29 20 2 29 21 24 AUG 28 8 46 28 6 0 SEPT 26 21 30 26 15 26 OCT 24 23 56 25 3 18 SEPT 26 21 30 26 15 26 Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 | 2 16 36 | | ŧ | | 2 10 2 | | 9 23 27 | 9 20 80 |
| JUNE. 11 9 46 11 18 48 JULY . 10 22 30 10 20 57 AUG 9 11 14 9 4 42 SEPT 7 23 58 7 13 50 OCT 7 12 42 7 1 2 Nov 6 1 26 5 14 35 DEC 5 14 10 5 6 23 MAR 4 2 54 3 23 51 FEB 2 15 38 2 17 55 MAR 4 4 22 411 28 APRIL 2 17 6 3 3 8 8 MAY . {2 5 50 2 16 32 30 12 54 30 12 54 30 12 54 30 12 54 30 26 15 26 OCT 26 10 14 26 2 11 Nov 24 22 58 24 14 27 DEC 8 0 55 8 8 7 7 7 17 57 AUG 6 2 23 6 7 50 AUG 6 2 23 6 7 50 OCT 4 8 51 4 8 44 Nov 2 16 85 2 20 11 DEC {2 5 19 2 7 12 31 18 8 31 17 48} DEC {2 5 19 2 7 12 31 18 8 31 17 48} DEC {2 5 19 2 7 12 31 18 8 31 17 48} DEC {2 5 19 2 7 12 31 18 8 31 17 48} DEC {2 5 19 2 7 12 31 18 8 31 17 48} DEC {2 5 19 2 7 12 31 18 8 31 17 48} DEC {2 6 19 32 28 14 84 34 30 8 16 30 1 89 30 1 89 30 8 16 30 1 89 30 12 54 30 | | MAY . | 12 21 2 | | , - | | 9 12 11 | 9 11 45 |
| Aug 9 11 14 9 4 42 | | JUNE . | 11 9 46 | 11 13 43 | | | 8 0 55 | 8 8 7 |
| SEPT 7 23 58 7 13 50 OCT. 7 12 42 7 1 2 Nov. 6 1 26 5 14 35 DEC. 5 14 10 5 6 23 1326. A. Feb. 2 15 38 2 17 55 MAR 4 22 4 11 28 APRIL 2 17 6 3 3 8 8 MAY. {2 5 50 2 16 32 30 12 54 | | JULY . | 10 22 30 | 10 20 57 | | JULY . | 7 13 39 | 7 17 57 |
| Sept. 7 23 58 7 13 50 Oct. 7 12 42 7 1 1 2 Oct. 4 3 51 4 8 44 Nov. 6 1 26 5 14 35 Dec. 5 14 10 5 6 23 Dec. 5 14 10 5 6 23 Dec. 2 15 38 2 17 55 Mar. 4 4 22 4 11 23 Dec. 2 18 38 Mar. 4 4 22 4 11 23 Dec. 2 17 6 3 3 8 Mar. 4 4 22 4 11 23 Dec. 2 15 31 30 8 16 30 1 89 Mar. 4 4 22 4 11 23 Dec. 4 10 26 2 11 Dec. 2 15 36 2 16 32 Dec. 2 15 51 Dec. 2 15 51 Dec. 2 15 15 Dec. 2 16 35 Dec. 2 16 3 | | Aug | 9 11 14 | 9 4 42 | | Aug | 6 2 23 | 6 7 50 |
| Nov 6 1 26 5 14 35 DEC 5 14 10 5 6 23 1326. A. FEB 2 15 38 2 17 55 MAR 4 4 22 4 11 23 DEC 5 14 10 2 17 6 3 3 8 8 MAY . 2 5 50 2 16 32 JUNE . 30 7 18 30 12 54 JULY . 29 20 2 29 21 24 AUG 28 8 46 28 6 0 SEFT 26 21 30 26 15 26 OCT 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Nov 21 6 35 2 20 11 Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 | | SEPT | 7 23 58 | 7 13 50 | | 1 . | 4 15 7 | 4 20 42 |
| Dec. 5 14 10 5 6 23 Dec. 2 5 19 2 7 12 | | Oct | 7 12 42 | 7 1 2 | | Oct. | 4 3 51 | 4 8 44 |
| 1326. Jan. 4 2 54 3 23 51 Feb. 2 15 38 2 17 55 Mar. 4 4 22 4 11 28 D. | | Nov | 6 1 26 | 5 14 35 | | Nov | 2 16 35 | 2 20 11 |
| 1326. A. FEE 2 15 38 2 17 55 MAR 4 4 22 4 11 28 2 22 25 APRIL 2 17 6 3 3 8 8 MAY . 2 5 50 2 16 32 JUNE . 30 7 18 JUNE . 29 20 2 29 21 24 AUG 28 8 46 28 6 0 SEFT 26 21 30 26 15 26 Oct 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Nov 24 22 58 24 14 27 Nov 24 22 58 24 14 27 | | DEC | 5 14 10 | 5 6 23 | | _ | (2 5 19 | 2 7 12 |
| Feb 2 15 38 2 17 55 MAR 30 6 47 80 4 9 Feb 28 19 82 28 14 84 MAR 30 8 16 30 1 89 MAY . 25 50 2 16 32 MAY . 29 20 2 29 21 24 Aug 28 8 46 28 6 0 Sept 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 | 1326. | Jan. | 4 2 54 | 3 23 51 | | DEC | {31 18 3 | 81 17 48 |
| MAR 4 4 22 4 11 28 APRIL 2 17 6 3 3 8 MAY . {2 5 50 2 16 32 30 12 54 30 12 54 30 12 54 30 12 54 40 28 8 46 28 6 0 5ept 26 10 14 26 2 11 Nov 24 22 58 24 14 27 D. Feb 28 19 32 28 14 84 | Α. | 1 | | | 1323 | TAN | 30 6 47 | 80 4 9 |
| 2 22 25 APRIL 2 17 6 3 3 8 8 | | MAR. | 1 | | | | 1 | |
| MAY . \begin{pmatrix} 2 & 5 & 50 & 2 & 16 & 32 & 2 & 15 & 51 \\ 31 & 18 & 84 & 18 & 84 \\ JUNE & 30 & 7 & 18 \\ JULY & 29 & 20 & 2 & 29 & 21 & 24 \\ Aug. & 28 & 8 & 46 & 28 & 6 & 0 \\ Sept. & 26 & 10 & 14 & 26 & 2 & 11 \\ Nov. & 24 & 22 & 58 & 24 & 14 & 27 \end{pmatrix} \text{APRIL} & 28 & 21 & 0 & 28 & 18 & 58 \\ MAY & 28 & 9 & 44 & 28 & 8 & 49 \\ JUNE & 26 & 22 & 28 & 26 & 19 & 8 \\ JULY & 26 & 11 & 12 & 26 & 11 & 6 \\ Aug. & 24 & 28 & 56 & 25 & 8 & 18 \\ Sept. & 23 & 12 & 40 & 28 & 18 & 41 \\ Oct. & 23 & 1 & 24 & 28 & 9 & 2 \\ Nov. & 21 & 14 & 8 & 21 & 22 & 42 \\ \end{pmatrix} | 2 22 2 | _ 1 . | , | | | | | |
| MAY . \(\begin{array}{cccccccccccccccccccccccccccccccccccc | | | c 2 5 50 | ' ' ' | 2 15 51 | | | |
| June. 30 7 18 30 12 54 July. 29 20 2 29 21 24 Aug. 28 8 46 28 6 0 Sept. 26 21 30 26 15 26 Oct. 26 10 14 26 2 11 Nov. 24 22 58 24 14 27 Nov. 21 14 8 21 22 4 | | MAY | 31 18 34 | | - 20 02 | 1 | | |
| July 29 20 2 29 21 24 Aug. 28 8 46 28 6 0 Sept. 26 21 30 26 15 26 Oct. 26 10 14 26 2 11 Nov. 24 22 25 8 24 14 27 July 26 11 12 26 11 6 Aug. 24 28 56 25 8 18 Sept. 23 12 40 28 18 41 Oct. 24 22 25 8 24 14 27 Nov. 21 14 8 21 22 4 | | JUNE . | | 1 T 3 35 | | | | |
| Aug 28 8 46 28 6 0 Sept 26 21 30 26 15 26 Oct 26 10 14 26 2 11 Nov 24 22 58 24 14 27 Aug 24 28 56 25 8 18 Sept 23 12 40 28 18 41 Oct 23 1 24 28 9 2 Nov 21 14 8 21 22 4 | | JULY | . 29 20 2 | 1. | | | | |
| Sept 26 21 30 26 15 26 Sept 23 12 40 28 18 41 Oct 26 10 14 26 2 11 Oct 23 1 24 28 9 2 Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 | | 1 . | | i | | 1 | | |
| Ocr. 26 10 14 26 2 11 Nov. 24 22 58 24 14 27 Ocr. 23 1 24 28 9 Nov. 21 14 8 21 22 10 0cr. 23 1 24 28 9 10 0cr. 21 14 8 21 22 | t e | SEPT. | | 1 | | | 1 | 1 |
| Nov 24 22 58 24 14 27 Nov 21 14 8 21 22 4 | | Oct. | . 26 10 14 | . [| | | 1 | |
| T 21 44 12 | | Nov. | . 24 22 58 | 1 | | 1 | | |
| | | DEC. | . 24 11 42 | 1 | . [| 1 | | |
| | | | | | | | 1 2 2 02 | |

| Mean Vernal Equinox. | Month. | Mean New Moon, | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon, |
|-------------------------------|--|--|---|------------------------------|--|---|---|
| B.C. 1322. | JAN | d. h. m. 19 15 36 | d. h. m. | B.C. 1319. F. | JAN | d. h. m. 16 6 46 | d. h. m. |
| April. d. h. m. 2 21 40 | FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | 18 4 21 19 17 5 18 5 49 17 18 38 16 7 17 15 20 1 14 8 45 12 21 29 | 18 5 16 19 18 56 17 22 52 17 9 0 15 21 4 15 11 26 14 8 52 12 21 81 | April. d. h. m. 2 15 6 | FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | 14 19 30 16 8 15 14 20 59 14 9 48 12 22 27 12 11 11 10 23 55 9 12 39 | 15 9 25 16 21 27 15 6 45 14 14 13 12 20 56 12 4 1 10 12 30 8 23 16 |
| | Oct Nov Dec | 12 10 13 10 22 57 10 11 41 | 12 15 14 11 7 55 10 22 44 | | Oct Nov Dec | 9 1 23 7 14 7 7 2 51 | 8 12 50 7 5 11 6 23 36 |
| 1321. B.A. | JAN FEB MAR | 9 0 25 7 18 9 8 1 53 | 9 11 18 7 21 48 8 6 21 | 1318. E. | JAN FEB MAR | 5 15 35 4 4 19 5 17 3 | 5 18 44 4 13 2 6 5 13 |
| 2 8 29 | APRIL MAY . JUNE . JULY . AUG SEPT Oct Nov Dec | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6 13 56 5 21 24 4 5 48 3 16 10 { 2 5 15 81 21 11 80 15 21 30 10 29 29 5 0 28 21 38 | 2 20 55 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 4 5 47 3 18 31 2 7 15 (1 19 59 81 8 43 29 21 27 28 10 11 27 22 55 26 11 39 26 0 23 | 4 18 32 4 5 7, 2 13 37 1 21 7 31 4 38 29 13 8 27 23 23 27 11 47 26 2 25 25 18 59 |
| 1320. œ. | JAN FEB MAR | 26 21 57 25 10 41 26 23 26 | 27 11 22 25 22 20 27 7 0 | 1317. D.C. | Jan Feb Mar | 24 13 7 23 1 51 23 14 36 | 24 12 40 23 6 23 23 22 58 |
| 2 9 18 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 25 12 10 25 0 54 28 13 38 28 2 22 21 15 6 20 3 50 19 16 34 18 5 18 17 18 2 | 25 14 11 24 20 54 23 4 15 22 13 22 21 1 8 19 15 59 19 9 39 18 5 1 18 0 27 | 2 2 44 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 22 3 20 21 16 4 20 4 48 19 17 32 18 6 16 16 19 0 16 7 44 14 20 28 14 9 12 | 22 1 47 20 12 1 19 21 1 18 5 89 16 14 49 16 1 1 14 12 32 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|--|----------------------|----------------------------|---------------|----------------------|----------------------|
| B.C. | _ | d. h. m. | d. h. m. | B.C. | T | d. h. m. | d. h. m. |
| 10 | JAN | 12 21 56 | 12 15 43 | 1313. F.E. | JAN | 10 13 6 | |
| April. | FEB | 11 10 41 | 11 7 9 | April. | FEB | 9 1 50 | 9 4 54 |
| d. h. m. | MAR | 12 23 25 | 12 23 15 | d. h. m. | MAR | 9 14 34 | 9 18 88 |
| 2 8 33 | APRIL | 11 12 9 | 11 15 21 | 2 1 59 | APRIL | 8 3 18 | 7 22 2 |
| | MAY . | 11 0 53 | 11 6 41 | | MAY. | 7 16 2 | 7 7 15 |
| | June . | 9 13 37 | 9 20 40 | | JUNE. | 6 4 46 | 5 18 9 |
| | JULY. | 9 2 21 | 9 9 5 | | JULY. | 5 17 30 | 5 7 21 |
| | Aug | 7 15 5 | 7 20 12 | | Aug | 4 6 14 | 8 22 55 |
| | SEPT | 6 3 49 | 6 6 38 | | SEPT | 2 18 58 | 2 16 16 |
| Ì | Oct | 5 16 33 | 5 16 57 | | Ост | 2 7 42 | 2 10 18 |
| | Nov | 4 5 17 | 4 3 31 | | 001 | \31 20 26 | (1 3 51 |
| | DEC | 3 18 1 | 3 14 30 | | Nov | 30 9 10 | 30 19 49 |
| | | . 0 0 45 | 0 1 50 | | DEC | 29 21 54 | 30 9 34 |
| 1315. | JAN | $\begin{cases} 2 & 6 & 45 \\ 31 & 19 & 29 \end{cases}$ | 2 1 56 | 4010 | T | 00 10 90 | 28 20 56 |
| A. | FEB | (51 19 29 | 31 13 54 | 1312. D. | JAN | 28 10 38 | 28 20 30 |
| | TED | (2 8 13 | | | FEB | 26 23 22 | 28 14 7 |
| | MAR | 31 20 57 | 2 2 44 | 0.540 | MAR | 28 12 7 | 26 21 21 |
| 2 14 22 | APRIL | 30 9 41 | 31 16 33 | 2 7 48 | APRIL | 27 0 51 | |
| 2 11 22 | MAY . | | 30 7 21 | | MAY . | 26 18 85 | |
| | | 29 22 25 28 11 9 | 29 22 41 | | JUNE. | 25 2 19 | 24 14 15 |
| | JUNE . | | 28 13 57 | | JULY. | 24 15 3 | 24 1 57 |
| | JULY . | 27 23 53 | 28 4 36 | | Aug | 23 3 47 | 22 16 33 |
| | | 26 12 37 | 26 18 16 | | SEPT | 21 16 81 | 21 9 51 |
| | SEPT. | 25 1 21 | 25 6 59 | | Ост | 21 5 15 | 21 4 49 |
| | Nov. | 24 14 5 | 24 18 54 | | Nov | 19 17 59 | 19 28 57 |
| | | 23 2 49 | 23 6 13 | | DEC | 19 6 43 | 19 17 42 |
| | DEC | 22 15 33 | 22 16 59 | 1311. | Jan | 17 19 27 | 18 8 55 |
| 1314. | JAN. | 21 4 17 | 21 3 16 | С. | FEB. | 16 8 11 | 16 21 12 |
| G. | FEB | 1 | | | MAR. | 17 20 56 | 18 6 49 |
| | MAR. | 21 5 46 | | 2 13 37 | | | 16 14 81 |
| 2 20 11 | APRIL | 19 18 30 | 1 | 2 10 01 | APRIL MAY. | 16 9 40 | 15 21 15 |
| r op of the second | MAY . | 1 | | | | 15 22 24 | |
| | JUNE . | 1 | 1 - | | JUNE. | 14 11 8 | |
| | JULY . | 1 | | | JULY. | 13 23 52 | 13 12 16 11 22 41 |
| | Aug. | | | | Aug | 12 12 36 | |
| | SEPT. | 1 - | | | SEPT | 11, 1 20 | 10 12 4 |
| | Oct. | | 0. | - | Oct | 10 14 4 | 10 4 29 |
| | Nov. | . 12 11 38 | | | Nov Dec | 9 2 48 | 8 28 12 |
| | | , -, 00 | | | I I bron | 8 15 32 | 8 18 48 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--|--|---|--|--|---|--|
| B.C. 1310. n. April. d. h. m. 2 19 26 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 7 4 16 5 17 0 7 5 44 5 18 28 5 7 12 3 19 56 3 8 40 { 1 21 24 } 31 10 8 29 22 52 29 11 36 28 0 20 27 13 4 | d. h. m. 7 13 35 6 6 6 6 7 19 35 6 6 5 5 14 20 3 21 18 3 4 9 1 11 55 30 21 34 29 9 47 29 0 48 27 18 15 27 18 5 | B.C. 1307. E. April. d. h. m. 2 12 52 | JAN FER MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 3 19 26 2 8 10 3 20 54 2 9 38 { 1 22 22 31 11 6 29 23 50 29 12 34 28 1 18 26 14 2 26 2 46 24 15 30 24 4 14 | d. h. m. 3 12 36 2 3 11 3 18 43 2 10 41 2 2 24 31 17 8 30 6 30 29 18 29 28 5 28 26 16 2 26 2 37 24 13 26 24 0 32 |
| 1309. A.G. 2 1 15 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 26 1 48 21 14 32 25 3 17 23 16 1 23 4 45 21 17 29 21 6 13 19 18 57 18 7 41 17 20 25 16 9 9 15 21 53 | 26 7 51 25 1 5 48 24 3 42 23 13 11 21 21 9 21 4 40 19 12 46 17 22 14 17 9 36 15 23 6 15 14 38 | 1306. D. 2 18 41 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 22 16 58 21 5 42 22 18 27 21 7 11 20 19 55 19 8 39 18 21 23 17 10 7 15 22 51 15 11 35 14 0 19 18 13 3 | 22 11 59 21 0 8 22 13 4 21 3 10 20 18 11 19 9 38 19 0 51 17 15 18 16 4 46 15 17 20 14 5 6 13 16 9 |
| 1308. F. 2 7 4 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 14 10 37 12 23 21 14 12 6 13 0 50 12 13 34 11 2 18 10 15 2 | 14 7 40 13 1 15 14 18 21 13 9 54 12 23 21 11 10 39 10 20 21 9 5 17 7 14 20 7 0 7 5 11 2 4 23 11 | 1305. c.b. | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 12 1 47 10 14 31 11 3 16 9 16 0 9 4 44 7 17 28 7 6 12 5 18 56 4 7 40 3 20 24 2 9 8 { 1 21 52 31 10 36 | 5 18 4 4 10 43 4 2 46 2 17 36 2 6 53 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|--------------------------|----------------------|
| | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| B.C. 1304. | JAN | 29 23 20 | 30 4 30 | B.C. 1301. | JAN | 27 14 30 | 28 2 3 |
| Α. | FEB. | 28 12 4 | 28 13 20 | E.D. | FEB | 26 3 14 | 26 17 1 |
| April. | MAR. | 30 0 48 | 29 21 35 | April. | MAR | 26 15 58 | 27 4 54 |
| d. h. m. 2 6 19 | APRIL | 28 13 32 | 28 6 7 | d. h. m. 1 23 45 | APRIL | 25 4 42 | 25 14 8 |
| | MAY . | 28 2 16 | 27 15 55 | | MAY . | 24 17 26 | 24 21 37 |
| - | June . | 26 15 0 | 26 3 53 | | June . | 23 6 10 | 28 4 26 |
| | JULY . | 26 3 44 | 25 18 20 | | JULY. | 22 18 54 | 22 11 44 |
| ļ | Aug | 24 16 28 | 24 11 1 | | Aug | 21 7 38 | 20 20 29 |
| | SEPT | 23 5 12 | 28 5 5 | | SEPT | 19 20 22 | 19 7 26 |
| | Oct | 22 17 56 | 22 23 15 | | Oct | 19 9 6 | 18 21 6 |
| | Nov | 21 6 40 | 21 16 17 | | Nov | 17 21 50 | 17 13 22 |
| | DEC | 20 19 24 | 21 7 15 | | DEC | 1 7 1 0 34 | 17 7 84 |
| 1303. | JAN | 19 8 9 | 19 19 46 | 1300. | JAN | 15 23 18 | 16 2 28 |
| G. | FEB | 17 20 53 | 18 5 55 | С. | FEB | 14 12 2 | 14 20 24 |
| , | MAR | 19 9 37 | 19 14 15 | | MAR | 16 0 47 | 16 12 22 |
| 2 12 8 | APRIL | 17 22 21 | 17 21 32 | 2 5 34 | APRIL | 14 13 31 | 15 1 37 |
| | May . | 17 11 5 | 17 4 45 | | May . | 14 2 15 | 14 12 15 |
| | June. | 15 23 49 | 15 13 0 | | June . | 12 14 59 | 12 20 58 |
| | Jura . | 15 12 33 | 14 23 21 | | JULY . | 12 3 43 | 12 4 44 |
| | Aug | 14 1 17 | 13 12 32 | | Aug | 10 16 27 | 10 12 37 |
| | SEPT | 12 14 1 | 12 4 41 | | Sept | 9 5 11 | 8 21 29 |
| | Ост | 12 2 45 | 11 23 6 | | Ост | 8 17 55 | 8 7 58 |
| | Nov | 10 15 29 | 10 18 28 | | Nov | 7 6 39 | 6 20 24 |
| | DEC | 10 4 13 | 10 13 9 | | DEC | 6 19 23 | 6 10 51 |
| 1302. | JAN | 8 16 57 | 9 5,44 | 1299. | JAN | 5 8 7 | 5 3 0 |
| ". | FEB | 7 5 41 | 7 19 26 | В. | FEB | 3 20 51 | 3 20 11 |
| | MAR. | 8 18 26 | 9 6 14 | | MAR | 5 9 35 | 5 13 26 |
| 2 17 57 | APRIL | 7 7 10 | 7 14 40 | 2 11 23 | APRIL | 3 22 19 | 4 5 44 |
| | MAY . | 6 19 54 | 6 21 40 | - | MAY . | 3 11 3 | 3 20 15 |
| | JUNE . | 5 8 38 | 5 4 19 | 1 | JUNE . | 1 23 47 | 2 8 42 |
| | JULY. | 4 21 22 | 4 11 43 | | JULY. | (1 12 31 | 1 19 17 |
| | Aug. | 3 10 6 | 2 20 57 | | JULY . | (31 1 15 | 31 4 43 |
| | SEPT | 1 22 50 | 1 8 53 30 23 53 | | Aug | 29 13 59 | 29 13 51 |
| | Ocr | 1 11 34 | 1 | | SEPT | 28 2 43 | 27 23 25 |
| | N- | (31 0 18 | 30 17 37 | | Oct | 27 15 27 | 27 9 5 O |
| | Nov | 29 13 2 | 29 12 59 | | Nov | 26 4 11 | 25 21 2 2 |
| 1 | DEC | 29 1 46 | 29 8 20 | H | DEC | 25 16 55 | 25 9 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------------|----------------------|----------------------|--|--------|----------------------|----------------------|
| | | d. h. m. | d. h. m. | P.C | | d. h. m. | d. h. m. |
| B.C. 1298. | JAN | 24 5 39 | 23 23 44 | B.C. 1295. | JAN | 20 20 49 | 21 3 56 |
| A. | FEB | 22 18 23 | 22 14 32 | D. | FEB | 19 9 33 | 19 13 8 |
| April. | MAR. | 24 7 8 | 24 6 7 | $\begin{array}{c} \text{April.} \\ d. \ h. \ m. \end{array}$ | MAR | 20 22 18 | 20 21 23 |
| d. h. m. 2 17 12 | APRIL | 22 19 52 | 22 21 53 | 2 10 38 | APRIL | 19 11 2 | 19 5 28 |
| | MAY . | 22 8 36 | 22 13 10 | | MAY . | 18 23 46 | 18 14 22 |
| | JUNE . | 20 21 20 | 21 3 25 | | June. | 17 12 30 | 17 1 4 |
| | JULY . | 20 10 4 | 20 16 16 | | July. | 17 1 14 | 16 14 15 |
| | A.ug | 18 22 48 | 19 3 59 | | Aug | 15 13 58 | 15 6 0 |
| | SEPT | 17 11 32 | 17 14 57 | | Sept | 14 2 42 | 13 23 41 |
| | Oct | 17 0 16 | 17 1 43 | | Oct | 13 15 26 | 13 18 9 |
| ٠, | Nov. | 15 13 0 | 15 12 28 | | Nov | 12 4 10 | 12 12 6 |
| | DEC | 15 1 44 | 14 28 22 | | DEC | 11 16 54 | 12 4 17 |
| 1007 | T | 13 14 28 | 13 10 27 | 1294. | JAN | 10 5 38 | 10 18 2 |
| 1297. g.f. | JAN | 12 3 12 | 11 21 54 | c. | FEB | 8 18 22 | 9 5 14 |
| | FEB. | 12 15 57 | 12 10 7 | | MAR. | 10 7 7 | 10 14 15 |
| 1 00 1 | MAR. | 11 4 41 | 10 23 25 | 2 16 27 | APRIL | 8 19 51 | 8 21 48 |
| 1 23 1 | APRIL MAY | 10 17 25 | 10 13 51 | | MAY. | 8 8 35 | 8 4 48 |
| | | 9 6 9 | 9 5 9 | | JUNE . | 6 21 19 | 6 12 19 |
| ` | JUNE . | 8 18 53 | | | JULY . | 6 10 \$ | 5 21 29 |
| | July. | 7 7 37 | | | Aug. | 4 22 4 | 4 9 14 |
| | Aug. | 5 20 21 | 1 | | SEPT | 3 11 3 | 3 0 0 |
| | SEPT | 5 9 5 | | | Ocr. | 3 0 1 | 2 17 31 |
| | Oct. | 3 21 49 | | 1 | Nov. | 1 12 5 | 9 1 12 43 |
| | Nov. | 3 10 38 | | 1 | | (1 14 | 3 1 8 2 |
| | DEC | 5 10 00 | 0 10 20 | | DEC | 80 14 2 | 7 31 1 52 |
| 1000 | т | (1 23 1 | 7 2 1 47 | | | 1 | |
| 1296. E. | JAN. | \{31 12 | 1 31 11 42 | 1293. | JAN | 29 3 1 | |
| | FEB. | | ••• | B.A. | FEB | 27 15 5 | 1 |
| | | (204 | 5 1 21 16 | | MAR | 28 4 8 | 1 |
| | MAR. | (31 13 2 | 9 31 7 7 | 1 22 16 | | 26 17 2 | |
| 2 4 5 | 0 APRIL | 30 2 1 | 3 29 18 2 | | MAY | 1 | 7 26 4 41 |
| | MAY | . 29 14 5 | 7 29 6 39 | 1 | June . | | |
| } | June | . 28 3 4 | 1 27 21 8 | | July | | 35 23 19 51 |
| | July | . 27 16 2 | 5 27 13 11 | . | Aug. | 24 0 | 9 22 6 26 |
| | AUG. | . 26 5 | 9 26 6 8 | B | SEPT. | 1 | 8 20 19 57 |
| | SEPT. | . 24 17 5 | 3 24 22 46 | 3 | Ост | . 20 21 4 | |
| | Ocr. | . 24 6 3 | 7 24 14 32 | 2 | Nov. | | 31 19 7 11 |
| | Nov. | . 22 19 2 | 1 23 4 46 | 3 | DEC. | . 18 23 | 15 19 2 42 |
| | DEC. | . 22 8 | 5 22 17 14 | Ł | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|----------------------------------|---|--|---------------------------------|----------------------------------|---|--|
| B.C. 1292. G. April. d. h. m. | JAN FEB MAR | d. h. m. 17 11 59 16 0 43 17 13 28 | d. h. m. 17 21 20 16 13 41 18 3 3 | B.C. 1289. p.c. April. | Jan Feb Mar | d. h. m. 15 3 9 13 15 53 14 4 38 | d. h. m. 14 20 50 13 10 50 14 1 48 |
| 2 4 5 | APRIL MAY . JUNE . JULY . | 16 2 12 15 14 56 14 3 40 13 16 24 | 16 13 29 15 21 42 14 4 47 13 11 50 | d. h. m. 1 21 31 | APRIL MAY . JUNE . JULY . | 12 17 22 12 6 6 10 18 50 10 7 34 | 12 17 20 12 8 53 10 23 46 10 13 30 |
| | Aug Sept Oct Nov Dec | 12 5 8 10 17 52 10 6 36 8 19 20 8 8 4 | 11 19 52 10 5 46 9 18 7 8 9 7 8 2 22 | | Aug Sept Oct Nov Dec | 8 20 18 7 9 2 6 21 46 5 10 30 4 23 14 | 9 2 2 7 13 36 7 0 40 5 11 32 4 22 23 |
| 1291, F. | JAN FEB MAR | 6 20 48 5 9 32 6 22 17 | 6 20 52 5 15 16 7 8 15 | 1288. B. | JAN FEB MAR | 3 11 58 2 0 42 3 13 27 | 3 9 13 1 20 18 3 7 43 |
| 2 9 53 | APRIL MAY. JUNE. JULY. | 5 11 1 4 23 45 3 12 29 3 1 13 | 5 22 50 5 10 46 3 20 24 3 4 39 | 2 3 20 | APRIL MAY . JUNE . | 2 2 11 (1 14 55 (31 3 39 29 16 23 | 1 20 8 1 9 48 31 0 39 29 16 13 |
| | Aug Sept Oct | 1 13 57 31 2 41 29 15 25 29 4 9 | 1 12 33 30 21 1 29 6 47 28 18 17 | | JULY . AUG SEPT OCT | 29 5 7 27 17 51 26 6 35 25 19 19 | 29 7 49 27 22 51 26 12 56 26 2 0 |
| 1290. | Nov Dec Jan | 27 16 53 27 5 37 25 18 21 | 27 7 40 26 22 51 25 15 21 | 1287. | Nov Dec | 24 8 3 23 20 47 | 24 14 0 24 1 2 |
| 2 15 42 | FEB MAR APRIL | 24 7 5 25 19 49 24 8 33 | 24 8 26 26 1 8 24 16 34 | 2 9 9 | JAN FEB MAR APRIL | 22 9 31 20 22 15 22 10 59 20 23 43 | 22 11 6 20 20 84 22 5 54 20 15 57 |
| | MAY . JUNE . JULY . AUG | 28 21 17 22 10 1 21 22 45 20 11 29 | 24 6 7 22 17 43 22 3 52 20 13 17 | _ | MAY . JUNE . JULY . Aug | 20 12 27 19 1 11 18 13 55 17 2 89 | 20 3 29 18 16 58 18 8 23 17 1 8 |
| | SEPT OCT Nov DEC | 19 0 13 18 12 57 17 1 41 16 14 25 | 18 22 48 18 8 55 16 19 55 16 7 52 | | SEPT OCT Nov DEC | 15 15 23 15 4 7 13 16 51 13 5 85 | 15 18 17 15 10 53 14 2 9 13 15 35 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|----------------------|----------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. | _ | d. h. m. | d. h. m. |
| 1286. | JAN | 11 18 19 | 12 3 7 | 1283. c. | JAN | 8 9 29 | 8 16 6 |
| G. | FEB | 10 7 3 | 10 12 52 | April. | FEB | 6 22 13 | 7 9 37 |
| April. $d. h. m.$ | MAR | 11 19 48 | 11 21 19 | d. $h.$ $m.$ | MAR | 8 10 58 | 9 0 27 |
| 2 14 58 | APRIL | 10 8 32 | 10 5 10 | 2 8 24 | APRIL | 6 23 42 | 7 12 14 |
| | MAY . | 9 21 16 | 9 13 20 | | MAY . | 6 12 26 | 6 21 27 |
| | June . | 8 10 0 | 7 22 56 | | JUNE. | 5 1 10 | 5 5 1 |
| | July . | 7 22 44 | 7 10 48 | | JULY. | 4 13 54 | 4 12 3 |
| | Aug | 6 11 28 | 6 1 21 | | Aug | 3 2 38 | 2 19 37 |
| | SEPT | 5 0 12 | 4 18 19 | | SEPT | 1 15 22 | 1 4 38 |
| | Oct . | 4 12 56 | 4 12 46 | ļ | Ост | C 1 4 6 | 30 15 49 |
| | Nov | 3 1 40 | 3 7 20 | | 001. | (30 16 50 | 30 5 31 |
| | DEC | 2 14 24 | 3 0 38 | | Nov: . | 29 5 34 | 28 21 38 |
| | | | | | DEC | 28 18 18 | 28 15 30 |
| 1285. | JAN | 1 3 8 | 1 15 41 | | _ | 07 7 0 | 07 0 55 |
| F.E. | VI_ | (30 15 52 | 81 4 5 | 1282. B. | JAN | 27 7 2 | 27 9 55 |
| | FEB | 29 4 36 | 29 13 59 | | FEB | 25 19 46 | 26 3 35 |
| | MAR | 29 17 20 | 29 22 1 | | MAR. | 27 8 30 | 27 19 20 |
| 1 20 46 | APRIL | 28 6.4 | 28 5 2 | 2 14 13 | APRIL | 25 21 14 | 26 8 35 |
| | MAY . | 27 18 48 | 27 12 4 | | MAY . | 25 9 58 | 25 19 20 |
| | June . | 26 7 32 | 25 20 16 | | JUNE . | 23 22 42 | 24 4 18 |
| | JULY . | 25 20 16 | 25 6 40 | | JULY . | 28 11 26 | 28 12 27 |
| | Aug | 24 9 0 | 23 19 58 | | Aug | 22 0 10 | 21 20 43 |
| | SEPT | 22 21 44 | 22 12 18 | | SEPT. | 20 12 54 | 20 5 57 |
| | Ocr | 22 10 28 | 22 6 55 | | Ocr | 20 1 38 | 19 16 38 |
| | Nov | 20 23 12 | 21 2 27 | | Nov | 18 14 22 | 18 5 4 |
| | DEC | 20 11 56 | 20 21 13 | | DEC | 18 3 6 | 17 19 15 |
| 1284. | JAN | 19 0 40 | 19 13 46 | 1281. | JAN | 16 15 50 | 16 10 54 |
| D. | FEB | 17 13 24 | 18 3 19 | A.G. | FEB | 15 4 34 | 15 8 82 |
| | MAR | 19 2 9 | 19 13 56 | | MAR | 15 17 19 | 15 20 21 |
| 2 2 35 | APRIL | 17 14 53 | 17 22 13 | 1 20 2 | APRIL | 14 6 3 | 14 12 24 |
| | MAY . | 17 3 37 | 17 5 7 | | MAY . | 13 18 47 | 14 2 56 |
| 9 | JUNE . | 15 16 21 | 15 11 47 | | JUNE . | 12 7 31 | 12 15 36 |
| | July . | 15 5 5 | 14 19 18 | | JULY. | 11 20 15 | 12 2 36 |
| | Aug. | 13 17 49 | 13 4 42 | | Aug | 10 8 59 | 10 12 33 |
| | SEPT | 12 6 33 | 11 16 47 | | SEPT | 8 21 43 | 8 22 11 |
| | OCT | 11 19 17 | 11 7 53 | | Oct | 8 10 27 | 8 8 7 |
| | Nov | 10 8 1 | 10 1 39 | | Nov | 6 23 11 | 6 18 45 |
| | DEC | 9 20 45 | 9 20 55 | | DEC | 6 11 55 | 6 6 11 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--------------------------------------|---|---|---|---|---|---|--|
| B.C. 1280. F. April. d. h. m. 2 1 51 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG | d. h. m. 5 0 39 3 13 23 5 2 8 3 14 52 3 3 36 1 16 20 1 5 4 30 17 48 29 6 32 | d. h. m. 4 18 28 3 7 39 4 21 51 3 12 54 3 4 23 1 19 42 1 10 11 50 23 34 29 11 53 | B.C. 1277. c.B. April. d. h. m. 1 19 17 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG | d. h. m. 2 15 49 1 4 33 { 1 17 18 { 31 6 2 29 18 46 29 7 30 27 20 14 27 8 58 25 21 42 | d. h. m. 8 1 55 1 12 24 1 21 15 31 5 6 29 12 49 28 21 28 27 8 8 26 21 16 25 18 12 |
| | SEPT | 27 19 16 | 27 23 25 | | SEPT. | 24 10 26 | 24 7 14 |
| | Ocr | 27 8 0 | 27 10 33 | | Oct | 23 23 10 | 24 2 6 |
| | Nov | 25 .20 44 | 25 21 28 | | Nov | 22 11 54 | 22 20 20 |
| | DEC | 25 9 28 | 25 8 13 | | DEC | 22 0 38 | 22 12 40 |
| 1279. | JAN. | 23 22 12 | 23 18 55 | 1276. | JAN | 20 13 22 | 21 2 25 |
| E. | FEB. | . 22 10 56 | 22 5 48 | А. | FEB | 19 2 6 | 19 13 25 |
| | MAR. | . 23 23 40 | 23 17 25 | | MAR | 20 14 50 | 20 22 |
| 2 74 | 1 | | | 2 1 6 | APRIL | 19 3 34 | 19 5 2 |
| | MAY | | 1 | | MAY . June . | 18 16 18 17 5 2 | |
| | JUNE | | 1 | | JULY. | 16 17 46 | 1 |
| | Aug. | | 1 | | Aug. | 15 6 30 | |
| | SEPT. | | | | SEPT. | 13 19 14 | 13 7 \$ |
| | Oct. | . 16 16 48 | | | Ост. | 13 7 58 | l |
| | Nov. | . 15 5 32 | 2 15 12 31 | | Nov. | 11 20 42 | 1 |
| | DEC. | . 14 18 16 | 6 15 0 4 | | DEC. | . 11 9 26 | 11 16 |
| 1278 | Jan. | . 13 7 | 0 13 10 30 | 1275. | JAN. | 9 22 10 | 10 9 |
| D. | FEB. | . 11 19 4 | 4 11 20 C | | FEB. | 8 10 54 | 9 0 |
| | MAR | 18 8 2 | 9 13 5 5 | ; | MAR. | . 9 23 39 | |
| 2 13 | 1 | 1 | | 2 6 55 | | 1 | 1 |
| | MAY | | 1 | 11 | MAY | . - | 7 8 5 |
| | JUNI | 1 | | 11 | JUNE | | |
| | JULI | 1 | | 11 | JULY | | _ |
| | AUG | | | 7 | A.ug. | | 9 4 5 8 2 14 |
| | OCT | 1 | 1 | · | SEPT. | . 3 4 | |
| | Nov | | | N . | | 1 5 8 | 181 20 |
| | DEC | 4 3 | 5 4 13 2 | 11 | Nov. | 30 18 1 | |
| | | | | | DEC. | . 30 6 5 | 9 80 10 |
| 1 | | | | 11 | 1 | 1 | 1 |

| Mean ornul luinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--------|----------------------|-------------------------------|--|------------|----------------------|----------------------|
| and the second of the second o | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| B.C. | JAN | 28 19 43 | 29 4 56 | B.C. 1271. | JAN | 25 10 53 | 25 5 0 |
| 274. | | 27 8 27 | 27 21 6 | в. | FEB | 23 23 37 | 23 18 24 |
| April. | FEB. | 28 21 12 | 29 10 21 | April. | MAR. | 25 12 22 | 25 8 36 |
| . h. m. | MAR. | 27 9 56 | 27 20 44 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | APRIL | 24 1 6 | 23 23 54 |
| 12 44 | APRIL | 26 22 40 | 27 5 3 | 2 0 10 | MAY. | 23 13 50 | 23 15 19 |
| | MAY. | 25 11 24 | 25 12 18 | | June . | 22 2 34 | 22 6 23 |
| | June . | 25 11 24 | 24 19 37 | | July . | 21 15 18 | 21 20 34 |
| | July. | 23 12 52 | 23 3 57 | | Aug. | 20 4 2 | 20 9 41 |
| | Aug. | 22 1 36 | 21 14 6 | | SEPT | 18 16 46 | 18 21 50 |
| | SEPT. | 21 14 20 | 21 2 35 | | Ocr | 18 5 30 | 18 9 23 |
| | Nov. | 20 3 4 | 19 17 30 | | Nov. | 16 18 14 | 16 20 31 |
| | DEC. | 19 15 48 | 19 10 26 | | DEC | 16 6 58 | 16 7 19 |
| | DEC | | | 1070 | T | 14 19 42 | 14 17 41 |
| 1273. | JAN | 18 4 32 | 18 4 33 | 1270. | JAN FEB | 13 8 26 | 13 · 4 21 |
| E.D. | FEB | 16 17 16 | 16 22 33 | | MAR. | 14 21 10 | 14 15 14 |
| | MAR. | 17 6 0 | 17 15 14 | 0 11 50 | | 13 9 54 | 13 3 8 |
| 1 18 88 | | 15 18 44 | 16 5 44 | 2 11 59 | MAY . | 12 22 38 | 12 16 25 |
| | MAY . | 15 7 28 | 15 17 45 | | JUNE . | 11 11 22 | 11 7 7 |
| | June. | 13 20 12 | 14 8 37 | | July . | 11 0 6 | 10 22 50 |
| | Juny. | 18 8 56 | 1 | | Aug. | 0 10 50 | 9 14 53 |
| | Aug. | 11 21 40 | | | SEPT. | 0 4 04 | 1 |
| | SEPT | 10 10 24 | | i | Oct. | 7 14 18 | 7 21 11 |
| | Ocr. | 9 28 8 | | | Nov. | 6 3 2 | 6 10 41 |
| | Nov. | 1 | | | DEC. | 5 15 46 | 5 22 53 |
| | DEC | 8 0 36 | 7 16 14 | H | 220. | | |
| 1272. | JAN. | 6 13 20 | 6 6 58 | 1269. | JAN. | . 4 4 30 | |
| c. | FEB. | 5 9 | 4 22 56 | G.F. | FEB. | . 2 17 14 | |
| | MAR. | | 9 6 15 29 | · | MAR. | | |
| 2 0 2 | | | 8 5 7 51 | 1 17 4 | 8 APRII | 1 - | 1120 23 |
| | MAY | | 7 4 23 11 | . | May | 1 7 2 | " |
| | June | | 1 3 12 58 | 3 | | (30 20 3 | 1 4 |
| | JULY | 0 17 4 | 5 8 0 5 | 2 | June | 00.01.5 | |
| | | (1 6 9 | 29 1 11 29 | 9 ∥ | July | 07 10 6 | |
| | Aug. | (30 19 | 1 | 11 | Aug. | 07 00 | 7 26 2 |
| | SEPT. | . 29 7 | | 1 | Sept. | 25 23 25 11 5 | • • |
| | Ост | . 28 20 | 41 28 17 4 | 7 | Oct | 1 | 35 24 10 4 |
| | Nov. | . 27 9 9 | $25 27 	ext{ } 4 	ext{ } 5$ | 11 | Nov. | | |
| 1 | DEC. | 26 22 | 9 26 16 8 | 3 | DEC. | . 20 10 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|--|----------------------------|--------|----------------------|----------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| 1268. E. | JAN | 22 2 3 | 22 11 38 | 1265. | JAN | 19 17 13 | 19 28 45 |
| April. | FEB | 20 14 47 | 20 21 6 | B.A. | FEB | 18 5 57 | 18 17 4 |
| d. h. m. | MAR | 22 3 31 | 22 5 9 | April. d. h. m. | Mar | 18 18 41 | 19 7 43 |
| 1 23 37 | APRIL | 20 16 15 | 20 12 38 | 1 17 3 | APRIL | 17 7 25 | 17 19 27 |
| | MAY . | 20 4 59 | 19 20 34 | | MAY . | 16 20 9 | 17 4 42 |
| | JUNE . | 18 17 43 | 18 5 59 | | JUNE. | 15 8 53 | 15 12 26 |
| | JULY. | 18 6 27 | 17 17 50 | | JULY. | 14 21 37 | 14 19 45 |
| 1 | Aυg | 16 19 11 | 16 8 30 | | Aug | 13 10 21 | 13 3 36 |
| | SEPT | 15 7 55 | 15 1 46 | | SEPT | 11 23 5 | 11 12 54 |
| | Oct | 14 20 39 | 14 20 33 | İ | Ост | 11 11 49 | 11 0 17 |
| | Nov | 13 9 23 | 13 15 25 | | Nov | 10 0 33 | 9 13 58 |
| | DEC | 12 22 7 | 13 8 55 | | DEC | 9 13 17 | 9 5 52 |
| 1267. | Jan | 11 10 51 | 12 0 0 | 1264. | JAN | 8 2 1 | 7 28 18 |
| D. | FEB | 9 23 35 | 10 12 14 | G. | FEB | 6 14 45 | 6 17 18 |
| | MAR | 11 12 20 | 11 21 54 | | Mar | 8 3 30 | 8 10 39 |
| 2 5 26 | APRIL | 10 1 4 | 10 5 41 | 1 22 52 | APRIL | 6 16 14 | 7 2 13 |
| | MAY. | 9 13 48 | 9 12 30 | | MAY . | 6 4 58 | 6 15 28 |
| | JUNE. | 8 2 32 | 7 19 27 | | June . | 4 17 42 | 5 2 26 |
| | JULY. | 7 15 16 | 7 3 39 | | JULY . | 4 6 26 | 4 11 44 |
| | Aug | 6 4 0 | 5 14 8 | | Ang | 2 19 10 | 2 20 17 |
| | SEPT | 4 16 44 | 4 3 35 | | ~ | (1 7 54 | 1 4 59 |
| | Ост | 4 5 28 | 8 20 5 | | SEPT | (30 20 38 | 30 14 34 |
| | Nov | 2 18 12 | 2 14 51 | | Ост | 30 9 22 | 30 1 26 |
| | DEC. | 2 6 56 | 2 10 27 | | Nov | 28 22 6 | 28 13 47 |
| | | 31 19 40 | | | DEC | 28 10 50 | 28 8 86 |
| 1266. | JAN | 30 8 24 | $ \begin{cases} 1 & 5 & 21 \\ 30 & 21 & 38 \end{cases} $ | 1263. | Jan | 26 23 34 | 26 18 44 |
| C. | FEB | 28 21 9 | (1114 | F. | FEB | 25 12 18 | 25 10 48 |
| | MAR. | 30 9 53 | 30 21 30 | | MAR. | 27 1 3 | 27 8 10 |
| 2 11 15 | APRIL | 28 22 37 | 29 5 40 | 2 4 41 | APRIL | 25 13 47 | 25 18 59 |
| | MAY . | 28 11 21 | 28 12 34 | | MAY . | 25 2 31 | 25 9 84 |
| | JUNE . | 27 0 5 | 26 19 19 | | JUNE. | 23 15 15 | 23 22 32 |
| | JULY . | 26 12 49 | 26 3 0 | | JULY. | 23 3 59 | 23 10 1 |
| | Aug | 25 1 33 | 24 12 36 | | Aug. | 21 16 43 | 21 20 29 |
| | SEPT | 23 14 17 | 23 0 52 | | SEPT. | 20 ¹ 5 27 | 20 6 3 |
| | Ост | 23 3 1 | 22 16 2 | | Oct. | 19 18 11 | 19 16 57 |
| | Nov | 21 15 45 | 21 9 43 | | Nov. | 18 6 55 | 18 3 45 |
| | DEC | 21 4 29 | 21 4 49 | | DEC. | 17 19 39 | 17 15 |
| | 1 | | 1 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|---------|----------------------|----------------------|----------------------------|---------------|----------------------|----------------------|
| | | d. h. m. | d. h. m. | P.C | | d. h. m. | d. h. m. |
| B.C. 1262. | JAN | 16 8 23 | 16 2 52 | B.C. 1259. | JAN | 12 23 33 | 13 10 30 |
| E. | FEB | 14 21 7 | 14 15 28 | Δ. | FEB | 11 12 17 | 11 20 43 |
| April. | MAR | 16 9 51 | 16 5 2 | d. h . m . | MAR | 13 1 1 | 13 5 13 |
| d. h. m. 2 10 29 | APRIL | 14 22 36 | 14 19 37 | 2 3 56 | A.PRIL | 11 13 45 | 11 12 42 |
| | MAY . | 14 11 21 | 14 1 0 52 | | MAY . | 11 2 29 | 10 20 9 |
| | June . | 13 0 5 | 13 2 13 | | June . | 9 15 13 | 9 4 36 |
| | JULY. | 12 12 49 | 12 17 4 | | JULY . | 9 3 57 | 8 15 7 |
| | Aug | 11 1 33 | 11 6 59 | 1 | Aug | 7 16 41 | 7 4 25 |
| | SEPT | 9 14 17 | 9 19 55 | | SEPT | 6 5 25 | 5 20 34 |
| | Ocr | 9 3 1 | 9 7 59 | | Ост | 5 18 9 | 5 14 53 |
| | Nov | 7 15 45 | 7 19 27 | | Nov | 4 6 53 | 4 10 4 |
| | DEC | 7 4 29 | 7 6 27 | | DEC | 3 19 37 | 4 4 32 |
| 1261. D.C. | Jan | 5 17 13 | 1 | 1258. | JAN | 2 8 21 81 21 5 | 2 20 56 |
| D.C. | FEB | 4 5 57 | 4 3 15 | G. | Trun | (81 21 0 | 1 10 32 |
| | MAR | 4 18 40 | | | FEB | c 2 9 50 | 2 21 20 |
| 1 16 18 | | 3 7 24 | | . | MAR | 31 22 34 | |
| | MAY . | 2 20 8 | | ll : | APRIL | 30 11 18 | 1 5 48 30 12 54 |
| | June . | 1 8 52 | | . 11 | MAY . | 30 0 2 | 29 19 36 |
| | _ | 30 21 36 | | 11 | June . | 28 12 46 | 28 3 3 |
| | July . | 00.00 | 1 | 1 | JULY . | 28 1 30 | 27 12 19 |
| | Aug. | | | 11 | Aug. | 00 44 44 | 26 0 18 |
| | SEPT. | | | ll l | SEPT. | 0- 0-0 | 24 15 24 |
| | Oct. | | | . | Ocr. | 24 15 42 | 24 9 13 |
| | Nov. | ~~ ^ | 0 25 8 5 | . 11 | Nov. | 23 4 26 | 23 4 38 |
| | DEC. | . 20 2 | 20 00 | | DEC. | . 22 17 10 | 23 0 0 |
| 1260. | Jan. | . 28 14 4 | | 5 | _ | 21 5 54 | 21 17 41 |
| в. | FEB. | . 22 3 2 | 1 | TE.E. | Jan. | 10 10 00 | 1 |
| | MAR. | . 23 16 1 | | 8 | FEB. | | |
| 1 22 | 7 APRII | 1 | | | MAR. | 10.00 | |
| | MAY | | | - 11 | | 1000 | |
| | JUNE | 1 | | 4 | MAY | 10 01 0 | |
| | July | | 9 19 10 8 | VI. | JUNE | 10101 | |
| | A.vo. | | | 11 | JULY | 74.00 (| 2 14 11 27 |
| | SEPT. | | | _ 11 | AUG. SEPT. | 1 -0 -1 -1 | |
| | Ост. | | 21 16 14 4 | 11 | OCT. | 12 0 3 | |
| | Nov. | 1 | 5 15 7 5 | . 11 | Nov. | 1 | 1 |
| | DEC. | . 14 10 | 49 14 22 | 4 | DEC. | | 1 0 |
| | | | | 11 | DEC. | -1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|--|---|--|---|--|---|---|
| B.C. 1256. D. April. d. h. m. 1 21 22 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT | d. h. m. 9 14 42 8 3 26 9 16 11 8 4 55 7 17 39 6 6 23 5 19 7 4 7 51 2 20 35 { 2 9 19 31 22 3 30 10 47 | d. h. m. 9 18 14 8 12 24 10 4 23 8 17 30 8 3 56 6 12 22 5 19 53 4 3 29 2 12 10 1 22 34 31 11 8 30 1 53 | B.C. 1253. A.G. April. d. h. m. 1 14 49 | Jan Feb Mar April May . June . July . Aug Sept Oct Nov | d. h. m. 7 5 52 5 18 36 6 7 21 4 20 5 4 8 49 2 21 33 { 2 10 17 31 23 1 30 11 45 29 0 29 28 13 13 27 1 57 | d. h. m. 7 1 7 5 13 4 6 1 50 4 15 38 4 6 25 2 21 45 2 13 8 { 1 3 48 80 17 26 29 6 11 28 18 10 27 5 28 |
| 1255. c. | JAN FEB | 29 28 81 28 12 15 27 0 59 | 29 18 28 28 12 6 27 5 41 | 125 2. F. | Jan Feb | 26 14 41 25 3 25 23 16 9 | 26 16 10 25 2 21 23 12 20 |
| 2 3 11 | MAR APRIL MAY. JUNE. | 28 13 44 27 2 28 26 15 12 25 3 56 24 16 40 | 28 22 7 27 12 32 27 0 40 25 10 52 24 19 52 | 1 20 38 | MAR APRIL MAY. JUNE. | 25 4 54 23 17 38 23 6 22 21 19 6 | 24 22 41 23 10 8 22 28 1 21 13 38 |
| | AUG SEPT OCT Nov | 23 5 24 21 18 8 21 6 52 19 19 36 | 28 4 37 21 13 54 21 0 14 19 11 49 | | JULY . AUG SEPT OCT Nov | 21 7 50 19 20 34 18 9 18 17 22 2 16 10 46 | 21 5 35 19 22 5 18 14 18 18 5 38 16 19 25 |
| 1254. в. | JAN FEB MAR | 19 8 20 17 21 4 16 9 48 17 22 32 | 19 0 47 17 15 3 16 6 25 17 22 27 | 1251. E. | DEC JAN FEB MAR | 15 23 30 14 12 14 13 0 58 14 13 42 | 16 7 44 14 18 29 13 3 53 14 12 26 |
| 2 9 0 | APRIL MAY . JUNE . JULY . | 16 11 16 16 0 0 14 12 44 14 1 28 | 16 14 27 16 5 42 14 19 38 14 8 1 | 2 2 27 | APRIL MAY . JUNE . JULY . | 13 2 26 12 15 10 11 3 54 10 16 38 | 12 20 51 12 6 6 10 17 5 10 6 27 |
| | Aug Sept Oct Nov Dec | 12 14 12 11 2 56 10 15 40 9 4 24 8 17 8 | 12 19 12 11 5 42 10 16 6 9 2 44 8 13 44 | | Aug Sept Oct Nov | 9 5 22 7 18 6 7 6 50 5 19 34 | 8 22 11 7 15 40 7 9 48 6 3 21 |
| | | 1 21 8 | 0 10 44 | | DEC | 5 8 18 | 5 19 14 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|---------------------------------|---|---|---|--------------------------------------|---|--|
| B.C. 1250. v. April. d. h. m. 2 8 15 | JAN FEB MAR APRIL | d. h. m. 8 21 2 2 9 46 8 22 81 2 11 15 | d. h. m. 4 8 49 2 20 1 4 5 10 2 12 53 | B.C. 1247. g. April. d. h. m. 2 1 42 | JAN FEB MAR APRIL | d. h. m. 30 0 56 28 13 41 30 2 25 28 15 9 28 3 58 | d. h. m. 30 7 17 28 23 55 30 14 51 29 2 35 28 11 57 |
| | June . July . Aug Sept | 1 28 59 81 12 48 80 1 27 29 14 11 28 2 55 26 15 89 | 1 20 5 81 8 48 29 18 8 29 1 1 27 15 51 26 9 20 | | MAY . JUNE . JULY . AUG SEPT OCT Nov | 28 3 58 26 16 37 26 5 21 24 18 5 23 6 49 22 19 33 21 8 17 | 26 19 54 26 3 30 24 11 44 22 21 22 22 8 53 20 22 30 |
| 1249. | Oct Nov Dec Jan | 26 4 28 24 17 7 24 5 51 22 18 85 | 26 4 24 24 28 81 24 17 9 28 8 10 | 1246. F. | DEC JAN FRB | 20 21 1 19 9 45 17 22 29 | 20 14 6 19 7 5 18 0 36 |
| 1 14 4 | FEB MAR APRIL MAY . | 21 7 19 21 20 4 20 8 48 19 21 82 | 21 20 15 22 5 41 20 18 15 19 19 57 | 2 7 81 | MAR APRIL MAY . JUNE . | 19 11 14 17 23 58 17 12 42 16 1 26 | 19 17 84 18 8 58 17 22 17 16 9 81 15 19 12 |
| | JUNE. JULY. AUG SEPT OCT | 18 10 16 17 28 0 16 11 44 15 0 28 14 18 12 | 18 2 52 17 11 9 15 21 46 14 11 22 14 8 59 | | July . Aug Sept Oct Nov | 15 14 10 14 2 54 12 15 88 12 4 22 10 17 6 | 14 4 13 12 13 28 11 23 18 |
| 1248. | Nov Dec Jan | 18 1 56 12 14 40 11 8 24 | 12 22 47 12 18 28 11 18 8 | 1245. E.D. | DEC JAN FEB | 10 5 50 8 18 34 7 7 18 7 20 5 | 8 11 55 |
| 1 19 58 | | 9 16 8 11 4 52 9 17 86 | 11 18 88 10 5 7 | 1 13 20 | MAR APRIL MAY. JUNE. | 6 8 40 5 21 30 4 10 10 | 6 9 49 |
| | June. July. Aug | 9 6 20 7 19 4 7 7 48 5 20 82 | 7 20 1 7 2 54 5 10 49 | | July . Aug Sept | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 2 2 17 29 6 1 4 3 |
| | SEPT OCT Nov DEC | 4 9 10 8 22 0 2 10 44 1 28 20 81 12 10 | 8 9 4 2 0 17 8 1 17 48 | | Nov Dec | 30 1 5 | 4 30 1 5 8 28 12 4 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon, | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|----------------------|----------------------|----------------------------|--------|----------------------|----------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| 1244. | JAN | 26 16 6 | 26 11 8 | 1241. | JAN | 24 7 16 | 24 18 54 |
| С. | FEB | 25 4 50 | 24 23 9 | G.F. | FEB | 22 20 0 | 28 4 52 |
| d. h . m . | MAR | 26 17 35 | 26 12 8 | April. $d. h. m.$ | MAR | 23 8 45 | 23 13 4 |
| 1 19 8 | APRIL | 25 6 19 | 25 2 13 | 1 12 35 | APRIL | 21 21 29 | 21 20 15 |
| | MAY . | 24 19 3 | 24 17 15 | | May . | 21 10 13 | 21 3 28 |
| | June. | 23 7 47 | 23 8 46 | | June . | 19 22 57 | 19 11 48 |
| | JULY . | 22 20 31 | 22 23 58 | | July. | 19 11 41 | 18 22 21 |
| | Aug | 21 9 15 | 21 14 28 | | Aug | 18 0 25 | 17 11 45 |
| | SEPT | 19 21 59 | 20 4 0 | | SEPT | 16 13 9 | 16 4 6 |
| | Ocr | 19 10 43 | 19 14 36 | | Oct | 16 1 58 | 15 22 39 |
| | Nov | 17 23 27 | 18 4 22 | | Nov | 14 14 37 | 14 18 4 |
| | DEC | 17 12 11 | 17 15 21 | | DEC | 14 8 21 | 14 12 42 |
| 1243. | JAN | 16 0 55 | 16 1 38 | 1240, | JAN | 12 16 5 | 18 5 6 |
| В. | FEB | 14 13 39 | 14 11 25 | E. | FEB | 11 4 49 | 11 18 84 |
| | MAR | 16 2 23 | 15 21 14 | | Mar | 12 17 33 | 13 5 8 |
| 2 0 57 | APRIL | 14 15 7 | 14 7 44 | 1 18 24 | APRIL | 11 6 17 | 11 18 25 |
| | MAY . | 14 3 51 | 13 19 40 | | MAY . | 10 19 1 | 10 20 21 |
| | June . | 12 16 35 | 12 9 24 | | June. | 9 7 45 | 9 8 1 |
| | JULY. | 12 5 19 | 12 0 50 | | JULY. | 8 20 29 | 8 10 32 |
| | Aug | 10 18 3 | 10 17 19 | | Aug | 7 9 18 | 6 19 55 |
| l | SEPT | 9 6 47 | 9 10 3 | j | SEPT | 5 21 57 | 585 |
| | Oct | 8 19 31 | 9 2 8 | | Oct | 5 10 41 | 4 28 18 |
| | Nov | 7 8 15 | 7 16 58 | | Nov | 3 23 25 | 8 17 11 |
| | DEC | 6 20 59 | 7 6 10 | | DEC | 8 12 9 | 8 12 86 |
| 1242. | JAN | 5 9 43 | 5 17 38 | 1239. | JAN | 5 2 0 53 | 2 7 52 |
| 1 | FEB | 3 22 27 | 4 3 32 | D. | JAM. | (31 13 87 | ••• |
| | MAR | 5 11 12 | 5 12 15 | | FEB | | 1 1 28 |
| 2 6 46 | | 3 23 56 | 3 20 24 | | MAR. | 5 2 2 22 | 2 16 9 |
| | MAY. | 3 12 40 | 3 4 55 | | IIIAR. | \21 15 6 | (1 8 449 |
| | June. | 2 1 24 | 1 14 48 | 2 0 13 | APRIL | 30 3 50 | 180 12 58 |
| | JULY. | § 1 14 8 | 1 2 53 | | MAY . | 29 16 34 | 29 20 17 |
| | | (31 2 52 | 30 17 31 | | June . | 28 5 18 | 28 3 10 |
| | AUG | 29 15 36 | 29 10 33 | | JULY . | 27 18 2 | 27 10 35 |
| 1 | SEPT | 28 4 20 | 28 4 33 | | Aug | 26 6 46 | 25 19 30 |
| | Oct. | 27 17 4 | | | SEPT | 24 19 30 | 24 5 40 |
| | Nov. | 26 5 48 | | | Oct | 24 8 14 | 28 20 80 |
| İ | DEC | 25 18 32 | 26 6 35 | | Nov | 22 20 58 | 22 12 55 |
| | 1 | | | Į. | DEC | 22 9 42 | 22 7 8 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|---|--|--|--|--|---|--|
| B.C. 1238. c. April. d. h. m. 2 6 1 | JAN FEB MAR APRIL MAY . | d. h. m. 20 22 26 19 11 10 20 23 55 19 12 39 19 1 28 | d. h. m. 21 1 52 19 19 43 21 11 29 20 0 33 19 11 4 | B.C. 1235. F. April. d. h. m. 1 23 28 | Jan Feb Mar April May . | d. h. m. 17 13 36 16 2 20 17 15 5 16 3 49 15 16 33 | d. h. m. 17 9 38 15 21 1 17 9 10 15 22 26 15 12 54 |
| | JUNE . JULY . AUG SEPT OCT NOV DEC | 17 14 7 17 2 51 15 15 35 14 4 19 13 17 8 12 5 47 11 18 31 | 17 19 48 17 8 81 15 11 82 13 20 83 13 7 11 11 19 46 11 10 17 | | JUNE . JULY . AUG SEPT OCT NOV DEC | 14 5 17 13 18 1 12 6 45 10 19 29 10 8 13 8 20 57 8 9 41 | 14 4 13 13 19 47 12 10 58 11 1 19 10 14 40 9 3 0 8 14 24 |
| 1237. B.A. | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | 10 7 15 8 19 59 9 8 43 7 21 27 7 10 11 5 22 55 5 11 39 4 0 23 2 18 7 | 10 2 26 8 19 38 9 12 41 8 4 50 7 19 14 • 6 7 36 5 18 9 4 3 38 2 12 52 1 22 33 | 1234. E. 2 5 17 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG | 6 22 25 5 11 9 6 23 53 5 12 37 5 1 21 8 14 5 8 2 49 { 1 15 33 81 4 17 29 17 1 | 7 0 57 5 10 45 6 20 13 5 6 1 4 16 57 8 5 88 2 20 15 1 12 26 81 5 12 29 22 0 |
| 1236. G. | Nov DEC JAN FEB | \begin{cases} \{ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 31 9 6 29 20 39 29 9 17 27 23 1 26 13 45 | 1233. D.G. | Oct Nov Dec Jan Feb | 29 5 45 27 18 29 27 7 13 25 19 57 24 8 41 24 21 26 | 29 13 55 28 4 7 27 16 28 26 3 1 24 12 5 24 20 13 |
| 1 17 39 | MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC. | 22 21 56 21 10 40 20 23 24 | 26 20 59 26 12 14 3 25 2 24 2 24 15 18 3 23 3 2 0 21 14 6 4 21 0 56 3 19 11 43 | 1 11 6 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 28 10 10 22 22 54 21 11 38 21 0 22 19 13 6 18 1 50 17 14 34 16 3 18 15 16 2 | 23 4 15 22 13 10 21 0 0 20 13 22 19 5 17 17 23 7 17 17 41 16 11 37 |

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| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|-------------------------------|--|---|---|---------------------------------|--|---|--|
| B.C. 1232. B. April. | JAN Feb Mar | d. h. m. 14 4 46 12 17 30 14 6 15 | d. h. m. 14 17 16 13 4 16 14 13 7 | B.C. 1229. F.E. April. | Jan Feb | d. h. m. 11 19 56 10 8 40 | d. h. m. 11 20 23 10 14 39 |
| d. h. m. 1 16 54 | APRIL MAY . JUNE . JULY . | 12 18 59 12 7 43 10 20 27 10 9 11 | 14 13 7 12 20 32 12 3 30 10 11 5 9 20 24 | d. h. m. 1 10 21 | MAR APRIL MAY. JUNE. JULY. | 10 21 24 9 10 8 8 22 52 7 11 86 7 0 20 | 11 7 26 9 21 51 9 9 36 7 19 10 7 3 26 |
| | Aug Sept Oct Nov Dec | 8 21 55 7 10 39 6 23 23 5 12 7 5 0 51 | 8 8 21 6 23 20 6 17 2 5 12 20 5 7 37 | | Aug Sept Oct Nov | 5 13 4 4 1 48 3 14 32 2 3 16 5 1 16 0 | 5 11 25 3 20 1 3 5 57 1 17 34 1 7 3 |
| 1231. A. 1 22 43 | Jan Feb Mar April | 3 13 35 2 2 19 3 15 3 2 3 47 | 4 1 15 2 16 12 4 4 6 2 13 20 | 1228. D. | Jan Feb Mar | 29 17 28 28 6 13 29 18 57 | 30 22 15 29 14 43 28 7 48 30 0 19 |
| , | MAY . JUNE . JULY . AUG SEPT | 1 16 31 31 5 15 29 17 59 29 6 43 27 19 27 | 1 20 48 31 3 22 29 10 22 28 18 46 27 5 33 | 1 16 10 | APRIL MAY . JUNE . JULY . AUG | 28 7 41 27 20 25 26 9 9 25 21 53 24 10 37 | 28 15 37 28 5 4 26 16 38 26 2 47 24 12 17 |
| | Oct Nov Dec | 26 8 11 25 20 55 24 9 39 23 22 23 | 25 19 17 25 11 59 24 6 48 24 2 17 | | SEPT OCT Nov DEC | 22 23 21 22 12 5 21 0 49 20 13 33 | 22 21 54 22 8 6 20 19 11 20 7 10 |
| 1230. e. | Jan Feb Mar | 22 11 7 20 23 51 22 12 36 | 22 20 45 21 12 54 23 2 3 | 1227. c. | JAN FEB MAR | 19 2 17 17 15 1 19 3 46 | 18 20 6 17 10 3 19 0 56 |
| 2 4 32 | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 21 1 20 20 14 4 19 2 48 18 15 32 17 4 16 15 17 0 15 5 44 18 18 28 18 7 12 | 13 8 36 | 1 21 59 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 17 16 30 17 5 14 15 17 58 15 6 42 18 19 26 12 8 10 11 20 54 10 9 38 9 22 22 | 17 16 26 17 7 57 15 22 48 15 12 32 14 1 6 12 12 45 11 28 51 10 10 47 9 21 88 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--------------------------------------|---|---|---|--|--|--|---|
| B.C. 1226. B. April. d. h. m. 2 3 47 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT | d. h. m. 8 11 6 6 23 50 8 12 34 7 1 18 6 14 2 5 2 46 4 15 30 3 4 14 1 16 58 { 1 5 42 30 18 26 29 7 10 | d. h. m. 8 8 25 6 19 20 8 6 44 6 19 8 6 8 49 4 23 48 4 15 19 3 6 59 1 22 4 1 12 18 31 1 17 29 13 15 | B.C. 1223. E. April. d. h. m. 1 21 14 | JAN FEB MAR APRIL MAY . JULY . AUG SEPT OCT NOV | d. h. m. 5 2 16 3 15 0 5 3 44 3 16 28 3 5 12 1 17 56 {1 6 40 30 19 24 29 8 8 27 20 52 27 9 36 25 22 20 | Moon. d. h. m. 5 15 0 4 3 12 5 12 54 3 20 47 3 3 44 { 1 10 48 30 19 6 30 5 41 28 18 18 27 11 47 27 6 32 26 2 5 |
| 1225. A.G. 1 9 86 | DEC. JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. | 22 13 3 21 1 47 19 14 31 19 3 15 17 15 59 | 29 0 12 27 10 10 25 19 30 26 4 48 24 14 51 24 2 25 22 16 2 22 7 35 21 0 26 19 17 41 19 10 19 18 1 33 17 14 54 | 1222. D. 2 3 8 | JAN FEE MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 25 11 4 23 23 48 22 12 32 24 1 17 22 14 1 22 2 45 20 15 29 20 4 18 18 16 57 17 5 41 16 18 25 15 7 9 14 19 53 | 25 20 48 24 13 4 23 2 24 24 12 49 22 20 57 22 3 49 20 10 31 19 18 9 18 3 44 16 16 2 16 7 21 15 1 14 14 20 31 |
| 1224. F. 1 15 25 | MAY JUNE JULY AUG. SEPT. OCT. Nov. | . 15 17 27 . 14 6 11 . 15 18 56 . 14 7 40 . 13 20 24 . 12 9 8 . 11 21 52 . 10 10 36 . 8 23 20 . 8 12 4 | 16 2 16 14 11 51 15 20 10 14 3 56 13 12 8 11 21 48 11 9 49 10 0 35 8 17 43 8 12 18 7 6 53 | | Jan Feb Mar | 18 8 37 11 21 21 12 10 6 10 22 50 10 11 34 9 0 18 8 13 5 7 1 46 5 14 30 5 3 15 50 | 18 15 36 12 8 56 12 23 33 11 11 8 10 20 12 9 3 44 8 10 48 6 18 30 5 3 42 4 15 3 8 3 4 56 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---|---------------------|--------------------------------|---------------------------|----------------------------|-----------------|---|--|
| B.C. 1220. | Jan | d. h. m. { 1 17 26 } {31 6 10} | d. h. m. 1 15 1 31 9 21 | B.C. 1217. E.D. | Jan Feb | d. h. m. 28 21 20 27 10 4 | d. h. m. 28 18 1 27 4 50 |
| | FEB | | 2 2 51 | April. d. h. m. 1 8 6 | MAR | 27 22 48 26 11 32 | 27 16 24 26 5 11 |
| April. d. h. m. 1 14 40 | MAR APRIL | (31 7 38 29 20 22 | 31 18 27 30 7 30 | | MAY . June . | 26 0 16 24 13 0 | 25 19 28 24 10 48 |
| | MAY . June . | 29 9 6 27 21 50 | 29 18 10 28 3 7 | | July . Aug | 24 1 44 22 14 28 | 24 2 86 22 18 19 |
| | July . Aug | 27 10 34 25 23 18 | 27 11 17 25 19 41 | | SEPT | 21 3 12 20 15 56 | 21 9 17 20 28 9 |
| | Sept Oct | 24 12 2 24 0 46 | 24 5 4 28 15 58 | | Nov Dec | 19 4 40 18 17 24 | 19 11 50 18 28 18 |
| | Nov Dec | 22 13 30 22 2 14 | 22 4 26 21 18 39 | 1216. c. | Jan | 17 6 8 | 17 9 86 15 19 1 |
| 1219. G. | Jan Feb | 20 14 58 19 3 42 | 20 10 17 19 2 51 | 1 13 55 | MAR | 15 18 52 17 7 37 15 20 21 | 15 19 1 17 8 58 15 18 18 |
| 1 20 29 | MAR APRIL | 20 16 27 19 5 11 | 20 19 86 19 11 30 | 1 10 00 | MAY . June . | 15 9 5 18 21 49 | 14 28 50 13 12 18 |
| | MAY . June . | 18 17 55 17 6 39 | 19 1 55 17 14 31 | | July . | 13 10 33 11 23 17 | 18 2 56 - 11 19 28 |
| | July . | 16 19 23 15 8 7 | 17 1 31 15 11 31 | | SEPT | 10 12 1 10 0 45 | 10 12 50 |
| | SEPT | 13 20 51 13 9 35 | 13 21 14 13 7 18 | | Nov Dec | 8 13 29 8 2 13 | 8 22 28 8 12 48 |
| | Nov Dec | 11 22 19 | 11 18 0 11 5 28 | 1215. B. | Jan | 6 14 57 | 7 1 8 |
| 1218. F. | Jan Feb | 9 23 47 8 12 31 | 9 17 43 8 6 52 | | FEB | 5 8 41 6 16 25 | 5 11 27 6 20 7 |
| 2 2 18 | MAR | 10 1 16 8 14 0 | 9 21 0 8 12 1 | 1 19 44 | MAY . | 5 5 9 4 17 58 | 5 8 52 4 11 88 |
| A Property of the Party of the | MAY . JUNE . JULY . | 8 2 44 6 15 28 | 8 3 27 6 18 45 | | JUNE. JULY. | 8 6 37 2 19 21 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| | AUG SEPT | 6 4 12 4 16 56 3 5 40 | 6 9 14 4 22 39 | | Aug. | $\begin{cases} 1 & 8 & 5 \\ 30 & 20 & 49 \end{cases}$ | 30 12 32 |
| | Oct. | 3 5 40 2 18 24 | 3 11 1 2 22 36 | | SEPT | 29 9 33 28 22 17 | 29 6 48 29 1 39 |
| | Nov | {1 7 8 80 19 52 | 1 9 47 | | Nov Dec | 27 11 1 26 28 45 | 27 19 51 27 12 3 |
| | DEC | 30 8 36 | 30 7 26 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|--|-------------------------------|---|---|-------------------------------|-----------------------------------|---|---|
| B.C. 1214. | Jan | d. h. m. 25 12 29 | d. h. m. 26 1 33 | B.C. 1211. | JAN | d. h. m. 22 3 39 | d. h. m. 22 3 59 |
| April. d. h. m. 2 1 33 | MAR APRIL MAY. JUNE. JULY. | 24 1 13 25 13 58 24 2 42 23 15 26 22 4 10 21 16 54 | 24 12 20 25 20 54 24 4 5 23 10 52 21 18 25 21 3 46 | April. d. h. m. 1 18 59 | FEB MAR APRIL MAY . JUNE . JULY . | 20 16 23 22 5 8 20 17 52 20 6 36 18 19 20 18 8 4 | 20 21 58 22 14 25 21 4 44 20 16 36 19 2 27 18 11 3 |
| | Aug Sept Oct Nov Dec | 20 5 38 18 18 22 18 7 6 16 19 50 16 8 34 | 19 15 49 18 6 59 18 0 52 16 20 18 16 15 36 | | Aug Sept Oct Nov Dec | 16 20 48 15 9 32 14 22 16 13 11 0 12 23 44 | 16 19 26 15 4 26 14 14 38 13 2 20 12 15 36 |
| 1213. g.f. | JAN FEB MAR | 14 21 18 13 10 2 13 22 47 | 15 9 13 14 0 2 14 11 47 | 1210. c. | JAN FEB MAR | 11 12 28 10 1 12 11 13 57 10 2 41 | 11 6 21 9 22 15 11 14 45 10 7 0 |
| 1 7 22 | APRIL MAY . JUNE . JULY . AUG | 12 11 31 12 0 15 10 12 59 10 1 43 8 14 27 7 3 11 | 12 20 52 12 4 11 10 10 51 9 17 57 8 2 32 6 13 30 6 3 24 | 2 0 48 | MAY. JUNE. JULY. AUG. SEPT. OCT. | 9 15 25 8 4 9 7 16 53 6 5 37 4 18 21 4 7 5 | 9 22 18 8 11 49 7 23 47 6 10 27 4 20 29 4 6 38 |
| 1212. | Oct Nov Dec | 6 15 55 5 4 39 4 17 23 3 6 7 | 6 3 24 4 20 5 4 14 48 3 10 5 | | Nov DEC | 2 19 49 { 2 8 33 { 31 21 17 | 2 17 2 2 4 6 81 15 48 |
| E. 1 13 11 | FEB MAR APRIL | 1 18 51 3 7 35 1 20 19 | 2 4 20 3 20 18 2 9 18 | 1209. B.A. | JAN FEB MAR | 30 10 1 28 22 45 29 11 29 | 30 4 13 28 17 33 29 7 51 |
| | May . | 1 9 3 30 21 47 | 1 19 32 31 3 45 29 11 1 | 1 6 37 | APRIL MAY . June . | 28 0 13 27 12 57 26 1 41 | 27 22 58 27 14 22 26 5 26 |
| | JUNE . JULY . AUG SEPT OCT | 29 10 31 28 23 15 27 11 59 26 0 43 25 13 27 | 28 18 26 27 2 55 25 13 15 25 1 54 | | JULY . AUG SEPT OCT | 25 14 25 24 3 9 22 15 58 22 4 37 20 17 21 | 25 19 38 24 8 47 22 21 2 22 8 37 20 19 45 |
| in the state of th | Nov | 24 2 11 28 14 55 | 28 16 57 28 9 56 | | Nov | 20 6 5 | 20 6 31 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|------------------------------------|----------------------------|------------|------------------------------------|---------------------------------|
| B.C. 1208. | Jan. | d. h. m. 18 18 49 | d. h. m. | B.C. 1205. | Jan | d. h. m. 16 9 59 | d. h. m. 16 23 16 |
| G. | | 17 7 33 | 17 3 23 | D.C. | FEB | 14 22 48 | 15 11 18 |
| April. | FEB. | 18 20 18 | 18 14 14 | | MAR. | (15 11 28 | 15 20 47 |
| d. h. m. | MAR. | _ 1 | 17 2 5 | April. | 0 | 30 5 50 | 30 4 50 |
| 1 12 26 | APRIL | | | d. h. m. | APRIL | 14 0 12 | 14 4 25 |
| | MAY . | 16 21 46 | 16 15 25 | 1 5 52 | | | 18 11 11 |
| | June . | 15 10 30 | 15 6 11 | | MAY. | 13 12 56 | |
| | JULY . | 14 23 14 | 14 21 59 | | June. | 12 1 40 | 11 18 11 |
| | Aug | 13 11 58 | 13 14 7 | | July. | 11 14 24 | 11 2 31 |
| | SEPT | 12 0 42 | 12 5 48 | | Aπg | 10 3 8 | 9 13 12 |
| | Ост | 11 13 26 | 11 20 32 | | SEPT | (8 15 52 | 8 2 58 |
| | Nov | 10 2 10 | 10 10 1 | | 0 | 23 10 14 | 28 18 40 |
| | DEC. | 9 14 54 | 9 22 9 | | Oct | 8 4 36 | 7 19 34 |
| | DEC. | 0 11 01 | J | | Nov. | 6 17 20 | 6 14 27 |
| | _ | | | | DEC. | 6 6 4 | 6 10 B |
| 1207. | JAN | 8 3 38 | 8 8 57 | | 220 | 0 0 1 | 0 20 0 |
| F. | FEB | 6 16 22 | 6 18 36 | | | | |
| | MAR | 8 5 7 | 8 8 29 | 1204. | JAN | 4 18 48 | 5 4 40 |
| 1 18 15 | APRIL | 6 17 51 | 6 12 16 | | FEB | 3 7 32 | 8 20 55 |
| | 0 | 21 12 13 | 22 0 1 | | MAR | 4 20 17 | 5 10 7 |
| | MAY . | 6 6 35 | 5 21 54 | 1 11 41 | APRIL | 3 9 1 | 8 20 21 |
| | JUNE . | 4 19 19 | 4 9 12 | | MAY . | 2 21 45 | 8 4 24 |
| | JULY. | 4 8 3 | 3 22 44 | | | C 1 10 29 | 1 11 15 |
| | Aug | 2 20 47 | 2 14 26 | | JUNE . | 80 23 13 | 80 18 8 |
| | | (1 9 31 | 1 11 19 | | JULY . | 30 11 57 | 80 1 52 |
| | SEPT | 30 22 15 | 1 1 28 | | Aug. | 29 0 41 | 28 11 41 |
| | | (15 16 37 | 15 6 49 | | | 27 13 25 | 27 0 9 |
| | 0 | 1) | 30 18 35 | | SEPT | | |
| | Oct | 30 10 59 | | | Oct. | 27 2 9 | 26 15 81 |
| | Nov. | 28 23 43 | 29 10 7 | | Nov. | 25 14 58 | 25 9 19 |
| | DEC | 28 12 27 | 28 23 33 | | DEC | 25 8 87 | 25 4 28 |
| 1206. | JAN | 27 1 11 | 27 10 45 | 1203. | Jan | 23 16 21 | 28 28 18 |
| E. | FRB | 25 13 55 | 25 20 1 | Α. | 0 | 7 10 48 | 7 10 16 |
| | MAR. | 27 2 39 | 27 3 57 | | FEB | 22 5 5 | 22 16 20 |
| | 0 | (10 21 1 | 11 4 24 | | MAR | 23 17 49 | 24 6 46 |
| 2 0 4 | APRIL | 25 15 23 | 25 11 23 | 1 17 30 | APRIL | 22 6 33 | 22 18 9 |
| | MAY . | 25 4 7 | 24 19 19 | | MAY . | 21 19 17 | 22 3 28 |
| 1 | JUNE . | 23 16 51 | 23 4 52 | | June . | 20 8 1 | 20 11 10 |
| | JULY . | 23 5 35 | | | JULY . | 19 20 45 | 19 18 82 |
| | Aug. | 1 | 1 | | | (8 15 7 | 3 12 8 |
| } | SEPT. | 1 | | | A 77.0 | 12 | 18 2 81 |
| | 0 | (5 1 23 | | | A.UG. | | 16 12 1 |
| | , , | 17 | | | SEPT | 16 22 13 | 1 |
| | Ост | . 1 1 10 10 45 | / 1U 9/1 # | | | | |
| | Oct. | . (19 19 47 | | | Oct | 16 10 57 | 15 28 34 |
| | Nov. | . (19 19 47 . 18 8 81 . 17 21 15 | 18 14 59 | | Nov Dec | 16 10 57 14 23 41 14 12 25 | 15 28 34 14 18 28 14 5 22 |

| - | 1 | 35 37 | True New | Mean | | Mean New | True New |
|--|--|---|--|--|--|---|--|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | Moon. | Vernal Equinox. | Month. | (O Full Ecl.) | Moon. O Full Ecl.) |
| B.C. 1202. g. April. d. h. m. 1 23 19 | JAN O FEB MAR APRIL MAY . JUNE . O AUG SEPT OCT NOV DEC | d. h. m. \[\begin{array}{cccccccccccccccccccccccccccccccccccc | d. h. m. 12 22 47 28 2 38 11 16 48 13 9 58 12 1 16 11 14 23 10 1 16 9 10 33 23 12 55 7 19 10 6 3 59 5 13 43 4 0 43 8 13 8 2 2 58 17 16 53 | B.C. 1199. c. April. d. h. m. 1 16 46 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 9 16 19 8 5 3 9 17 48 8 6 32 { 7 19 16 22 13 38 6 8 0 5 20 44 4 9 28 2 22 12 { 2 10 56 81 23 40 { 15 18 2 80 12 24 80 1 8 | d. h. m. 9 16 8 8 2 17 9 12 34 7 23 34 7 11 55 22 19 47 6 1 54 5 17 19 4 9 34 3 1 49 2 17 22 1 7 45 15 8 21 30 20 41 30 8 7 |
| 1201. F.E. | JAN. O FEB MAR APRIL MAY JUNE O JULY AUG. SEFT. OCT. NOV. DEC. | \(\begin{array}{cccccccccccccccccccccccccccccccccccc | 81 18 4 1 10 8 81 2 18 29 18 1 29 8 38 27 21 28 11 19 50 27 8 57 25 19 30 4 24 5 44 8 23 16 8 2 22 2 58 6 21 14 14 | 1198. B. 1 22 85 | JAN. FEB. MAR. APRIL O MAY JUNE JULY AUG. SEPT. O NOV. DEC. | 21 19 44 21 8 28 5 2 50 19 21 12 19 9 56 | 19 21 24 |
| 1200. D. | Jan. Feb. Mar. 7 April May June July Aug. Sept. Oct. Nov. O | . 18 20 1 20 8 5 1 18 21 4 . 18 10 2 . 16 23 1 . 16 11 5 . 15 0 3 . 13 13 2 . 13 2 . 11 14 5 . 26 9 1 | 4 18 14 36 9 20 4 9 8 18 18 40 7 18 9 53 1 17 1 15 5 16 16 8 9 15 6 5 13 19 3 7 13 7 12 51 11 18 42 13 26 6 36 | | MAY JUNE JULY AUG. SEPT. OCT. | . 16 11 24 . 17 0 9 . 15 12 58 . 15 1 87 . 13 14 21 . 18 8 8 . 11 15 49 . 10 4 88 . 9 17 1 | 17 4 4 15 11 28 14 18 58 13 8 25 12 14 6 11 3 37 9 19 38 9 14 26 8 9 39 |

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|---------------------|--------|---|--|----------------|--------|---------------|------------------------|
| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | 35 | Mean New | True New |
| Equinox. | - | (O Full Ecl.) | (O Full Ecl.) | Equinox. | Month. | Moon. | Moon. (O Full Ecl.) |
| | | | | | | - | |
| BO | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| B.C. 1196. | JAN | 6 7 30 | 6 00 01 | B.C. | l _ | l | cc. 11. 11c. |
| F. | 173 | 4 20 14 | 6 20 21 | 1193. c.b. | JAN | 3 22 39 | 3 1 7 57 |
| | MAR. | | 5 9 42 | April. | FEB | 2 11 23 | 2 11 31 |
| April. | O | 13 | 6 20 17 | d. h. m. | Mar | 3 0 8 | 3 4 59 |
| d. h. m. 1 10 13 | | | 21 0 31 | 1 3 39 | APRIL | 1 12 52 | 1 21 15 |
| 1 10 15 | APRIL | 4 21 42 | 5 4 36 | į | MAY . | 1 1 36 | 1 11 31 |
| | MAY. | 4 10 26 | 4 11 35 | | | 30 14 20 | 30 23 33 |
| | JUNE. | 2 23 10 | 2 18 17 | | JUNE . | 29 3 4 | 29 9 42 |
| | July. | 2 11 54 | $\begin{cases} 2 & 1 & 50 \\ 21 & 11 & 10 \end{cases}$ | ĺ | JULY. | 28 15 48 | 28 18 45 |
| | Aug | § 1 0 38 | (31 11 16 | | Aug | 27 4 32 | 27 3 37 |
| | | (30 13 22 | 29 23 29 | | SEPT | 25 17 16 | 25 13 2 |
| - | 20 | \{\begin{array}{c ccccccccccccccccccccccccccccccccccc | 14 12 18 | | Oct | 25 6 0 | 24 23 27 |
| | SEPT | (29 2 6 | 28 14 49 | | Nov. | 23 18 44 | 23 11 9 |
| | Ост | 28 14 50 | 28 8 47 | | Dec | 28 7 28 | 23 0 7 |
| | Nov | 27 3 34 | 27 4 15 | | _ | | 7 44 00 |
| | DEC | 26 16 18 | 26 23 33 | 1192. | 7 | 7 1 50 | 7 14 39 |
| 1195. | JAN | 25 5 2 | 25 17 4 | 1192. | JAN | 21 20 12 | 21 14 23 |
| E. | FEB. | 28 17 46 | 24 7 43 | | FEB | 20 8 56 | 20 5 41 |
| | 0 | (10 12 8 | 10 6 16 | 1 0 00 | Mar | 21 21 40 | 21 21 37 |
| | MAR. | 25 6 30 | 25 19 18 | 1 9 28 | APRIL | 20 10 24 | 20 13 33 |
| 1 16 2 | APRIL | 23 19 14 | 24 4 17 | | MAY . | 19 23 8 | 20 4 44 |
| | MAY . | 23 7 58 | 23 11 36 | | June. | 18 11 52 | 18 18 36 |
| | JUNE . | 21 20 42 | 21 18 20 | | , O | 3 6 14 | 2 18 31 |
| | JULY. | 21 9 26 | 21 18 20 | | JULY. | (18 0 36 | 18 7 0 |
| 1 | Aug | 19 22 10 | 19 10 26 | | Aug | 16 13 20 | 16 18 13 |
| 1 | 0 | (3 16 32 | 3 21 42 | | SEPT | 15 2 4 | 15 4 48 |
| 1 | SEPT. | 18 10 54 | 17 21 37 | | Ocr | 14 14 48 | 14 15 17 |
| | Ocr. | 17 23 38 | 17 11 36 | | Nov | 13 3 32 | 13 1 59 |
| 1 | Nov. | 16 12 22 | l . II | | Dec | §12 16 16 | 12 12 58 |
| | DEC. | 16 1 6 | 16 4 15 15 22 44 | | 0 | (27 10 38 | 27 20 29 |
| 440.4 | _ | | 10 44 44 | 1191. | JAN | 11 5 0 | 11 0 20 |
| 1194. D. | JAN | 14 13 50 | 14 17 46 | G. | FEB | 9 17 44 | 9 12 18 |
| ν. | FEB | ∫13 2 34 | 13 11 45 | | MAR. | 11 6 29 | 11 0 55 |
| | 0 | 27 20 56 | 27 18 58 | 1 15 17 | APRIL | 9 19 13 | 9 14 42 |
| 1 04 | MAR. | 14 15 19 | 15 3 30 | | MAY . | 9 7 57 | 9 5 27 |
| 1 21 50 | APRIL | 13 4 3 | 13 16 26 | | JUNE . | 7 20 41 | 7 20 48 |
| 1 | MAY . | 12 16 47 | 13 2 43 | | 0 | 22 15 3 | 22 9 52 |
| | JUNE. | 11 5 31 | 11 11 7 | | JULY. | 7 9 25 | 7 12 9 |
| | JULY. | 10 18 15 | 10 18 38 | | Aug | 5 22 9 | 6 2 51 |
| | Aug | 5 9 6 59 | 9 2 22 | | SEPT. | 4 10 53 | 4 16 38 |
| | 0 | 24 1 21 | 24 0 7 | | Oct. | 3 23 37 | 4 5 26 |
| [| SEPT | 7 19 43 | 7 11 12 | | Nov. | 2 12 21 | 2 17 26 |
| | Ocr | 7 8 27 | 6 21 47 | | | 2 1 5 | 2 4 43 |
| | Nov | 5 21 11 | 5 7 29 | | DEC. O | (| 16 20 18 |
| | DEC | 5 9 55 | 5 1 20 | | | 31 13 49 | 31 15 21 |
| | | 1 | Н | | | -OT TO 49 | OT 10 7T |

| Mean Vernal Equinox. | Month. | Mean N ew Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Eci). | True New Moon. (O Full Ecl.) |
|-------------------------------|----------------------|--|-----------------------------------|----------------------------|----------------------|--|---------------------------------|
| B.C. 1190. F. April. | JAN Feb | d. h. m. 30 2 33 28 15 17 30 4 1 | d. h. m. 30 1 26 28 11 19 | B.C. 1187. B. | Jan Feb | d. h. m. 26 17 48 25 6 27 | d. h. m. 27 7 25 25 19 16 |
| d. h. m. 1 21 6 | MAR APRIL MAY. | 28 16 45 28 5 29 | 29 21 36 28 8 58 27 21 59 | April. d. h. m. 1 14 32 | MAR | 26 19 11 {10 13 33 25 7 55 | 27 4 30 10 11 33 25 11 57 |
| | O June. July. | 11 23 51 26 18 13 26 6 57 | 12 3 5 26 12 44 26 4 47 | | MAY . JUNE . JULY . | 24 20 39 23 9 23 22 22 7 | 24 18 37 23 1 35 22 10 1 |
| | Aug., Sept Oct | 24 19 41 23 8 25 22 21 9 | 24 21 21 23 13 38 23 4 55 | | Aug Sept | 21 10 51 19 23 35 4 17 57 | 20 20 51 19 10 40 4 22 12 |
| | Nov DEC | 21 9 53 20 22 37 | 21 18 45 21 6 58 | | Nov Dec | (19 12 19 18 1 3 17 13 47 | 19 3 29 17 22 24 17 17 59 |
| 1189. E.D. | JAN Feb Mar | 19 11 21 18 0 5 18 12 50 | 19 17 35 18 2 51 18 11 18 | 1186. A. | JAN Feb | 16 2 31 14 15 15 | 16 12 30 15 4 35 |
| 1 2 55 | APRIL O May. | 17 1 34 { 1 19 56 { 16 14 18 | 16 19 40 2 6 58 16 4 56 | 1 20 21 | MAR APRIL MAY. | 16 4 0 14 16 44 14 5 28 | 16 17 38 15 8 46 14 11 47 |
| | JUNE . JULY . Aug | 15 3 2 14 15 46 13 4 30 | 14 16 2 14 5 33 12 21 26 | | JUNE. JULY. AUG. | 12 18 12 12 6 56 10 19 40 | 12 18 42 12 1 41 10 9 44 |
| | SEPT OCT | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 11 15 5 11 9 19 25 15 32 | | SEPT Oct Nov | 9 8 24 8 21 8 7 9 52 | 8 19 47 8 8 23 6 23 45 |
| | Nov Dec | 9 18 42 9 7 26 | 10 2 51 9 18 37 | 1185. | Dec | 6 22 36 | 6 17 23 5 12 1 |
| 1188. | JAN FEB MAR | 7 20 10 6 8 54 7 21 39 | 8 8 4 6 19 4 8 4 4 | G.F. | JAN FEB | 5 11 20 | 4 6 41 18 18 29 4 23 34 |
| .1 8 43 | APRIL O May | $ \begin{cases} 6 & 10 & 23 \\ 21 & 4 & 45 \\ 5 & 23 & 7 \end{cases} $ | 6 11 39 21 11 2 5 18 48 | 1 2 10 | MAR APRIL MAY. | 4 12 49 3 1 33 2 14 17 (1 3 1 | 3 13 52 3 1 26 1 10 42 |
| | June . July . Aug. | 4 11 51 4 0 35 2 13 19 | 4 2 34 3 12 2 (2 0 6 | | JUNE. JULY. | 30 15 45 30 4 29 | 30 18 40 30 2 21 13 18 3 |
| | SEPT. | \begin{cases} 1 & 2 & 3 \\ 30 & 14 & 47 \\ (15 & 9 & 9 \end{cases} | 30 8 50 15 6 54 | | AUG SEPT | 18 22 51 28 17 18 27 5 57 | 28 10 43 26 20 31 26 8 11 |
| - | Nov. | 30 3 31 28 16 15 28 4 59 | 30 4 0 28 23 7 28 16 36 | | Nov Dec | 26 18 41 25 7 25 24 20 9 | 24 21 56 |
| 9 | 11 | | 1 | П | List. | 8 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) |
|--------------------------------------|--|---|--|---|--|---|--|
| B.C. 1184. E. April. d. h. m. 1 7 58 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG | d. h. m. 28 8 58 5 7 8 15 21 21 87 23 10 21 21 28 5 21 11 49 20 0 33 19 18 17 (3 7 89 18 2 1 | d. h. m. 23 6 31 7 10 57 21 23 56 23 16 43 22 8 0 21 21 11 20 8 22 19 18 5 2 19 58 18 3 9 | B.C. 1181. B.A. April. d. h. m. 1 1 25 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT | d. h. m. 21 0 3 19 12 47 20 1 81 18 14 15 18 2 59 { 1 21 21 {16 15 43 16 4 27 14 17 11 13 5 55 12 18 39 | d. h. m. 21 0 45 19 10 26 19 20 9 18 6 40 17 18 38 2 8 7 16 8 27 15 23 59 14 16 35 13 9 24 13 1 32 |
| | SEPT OCT Nov DEC | 16 14 45 16 3 29 14 16 13 14 4 57 | 16 14 26 15 22 29 14 9 35 13 21 49 | | Nov O Dec | 12 18 59 (11 7 23 (26 1 45 10 20 7 | 11 16 20 25 16 41 11 5 27 |
| 1183. D. | Jan O FEB Mar. | | 12 11 12 28 1 8 11 1 43 12 17 7 | 1180. _G . | Jan Feb Mar | 9 8 51 7 21 85 9 10 20 | 9 16 48 8 2 88 9 11 8 |
| 1 18 4 | APRIL MAY JUNE JULY O AUG. SEPT. | 11 7 54 10 20 38 9 9 22 8 22 6 23 16 28 7 10 50 5 23 34 | 11 8 57 11 0 21 9 15 11 9 4 29 23 3 14 7 16 31 6 3 38 | 1 7 14 | April May . O June . July . Aug Sept | 7 23 4 7 11 48 22 6 10 6 0 32 5 13 16 4 2 0 2 14 44 (2 3 28 | 7 19 12 7 8 48 22 16 1 5 18 40 5 1 54 8 16 48 2 9 45 2 4 2 |
| 1182 | DEC. | 4 1 2 3 13 46 2 2 30 | 5 14 21 4 1 4 3 11 55 1 22 58 31 10 17 | | Oct Nov Dec | \$1 16 12 \$15 10 34 \$30 4 56 29 17 40 | 31 22 18 15 1 59 |
| 1 19 | FEB. MAR. 36 Apri MAY | { 2 | 1 22 15 31 11 11 30 1 15 29 16 20 | 1 18 9 | | 26 20 37 | 27 8 50 28 11 52 26 18 58 |
| | June July Aug. Sept Oct. Nov. O Dec. | 28 6 55 27 19 39 26 8 23 24 21 7 24 9 51 22 22 35 7 16 50 | 28 7 50 27 23 7 3 26 13 39 25 3 15 24 15 56 5 23 3 30 7 7 14 30 |)))) 3 3 3 3 3 | MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. | . 24 22 5 . 24 10 49 . 22 23 38 . 21 12 17 . 21 1 | 24 10 89 28 21 20 3 22 10 58 7 21 8 82 20 22 15 5 19 17 42 |

| | | Jı | ERUSALEM C | INIT TIME. | | | |
|---------------------------------------|--|---|---|---|---|---|--|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ed.) | True New Moon. Tull Ecl.) |
| B.C. 1178. E. April. d. h. m. 1 18 51 | JAN FEB MAR O APRIL MAY - JUNE - JULY . AUG. SEPT. | d. h. m. 17 15 18 16 3 57 17 16 41 { 1 11 3 16 5 25 15 18 9 14 6 58 13 19 37 12 8 21 | d. h. m. 18 4 25 16 17 41 18 4 2 1 7 24 16 12 11 15 19 2 14 1 43 13 9 21 11 18 57 10 7 19 25 20 37 | B.C. 1175. A. April. d. h. m. 1 12 18 | JAN FEB MAR APRIL MAY - JUNE - JULY - AUG SEPT OCT Nov | d. h. m. 14 6 28 12 19 7 14 7 51 12 20 85 12 9 19 10 22 8 10 10 47 8 23 31 7 12 15 7 0 59 5 18 48 5 2 27 | d. h. m. 14 1 51 12 18 54 14 11 55 13 3 56 12 18 13 11 6 29 10 17 2 9 2 34 7 11 54 6 21 42 5 8 19 4 19 57 |
| 1177. D.C. | MAY JUNE JULY AUG O SEPT OOT NOV DEC | 8 22 33 8 11 17 7 0 1 5 12 45 6 1 36 20 19 55 4 14 14 4 2 56 2 15 4 2 4 2 31 17 1 30 5 5 (14 0 1) 28 18 3 28 7 2 26 20 26 8 3 | 8 12 12 7 7 23 6 0 48 6 15 15 2 20 18 43 5 2 48 4 11 38 2 19 0 6 2 1 58 4 12 19 0 8 2 19 0 14 5 2 14 5 2 14 5 2 15 2 6 16 2 1 5 6 16 2 1 5 6 17 1 5 2 18 2 19 0 18 3 2 19 1 5 2 10 1 5 2 | 1 18 7 3 3 3 5 5 6 6 7 7 4 4 6 6 7.7 | DEC JAN O FEB MAR APRIL MAY JUNE O JULY AUG. SEPT. OCT. NOV. DEC. O JAN. | \$ 15 11 18 9 38 2 8 55 3 16 40 2 5 24 1 18 8 81 6 52 29 19 36 14 13 58 29 8 20 27 21 4 26 9 48 25 22 32 24 11 16 24 0 (7 18 2 22 12 4 | 3 8 35 18 22 55 1 22 16 3 12 58 2 4 24 1 20 4 31 11 16 30 1 26 14 1 57 29 14 19 28 2 8 26 13 15 26 0 7 24 10 58 23 21 49 28 4 25 4 22 8 47 |
| 1176 B. | PER COMA AP MA JU JU AT SE OCO N | 23 10 (10 4) (24 23) (23 11) | 18 23 19 40 10 2 5 8 25 10 6 47 23 23 3 1 23 9 15 21 18 59 21 2 43 19 10 5 3 7 27 17 19 11 17 6 55 15 19 | 0 Marcl 55 85 85 28 852 28 21 27 24 38 26 8 | | 21 14 1 20 2 5 19 15 4 18 4 2 2 22 17 17 16 5 14 18 14 7 7 12 20 5 | 2 21 8 12 19 21 26 19 11 56 24 18 3 17 46 2 17 25 8 17 18 55 16 10 9 36 15 0 33 20 14 13 56 4 13 2 16 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 1169. | | d. h. m. | d. h. m. |
| 1172. | JAN | 10 21 32 | 11 0 5 | March. | JAN | 8 12 42 | 9 0 40 |
| D. | FEB | 9 10 16 | 9 9 46 | d. h. m. | FEB | 7 1 26 | 7 15 28 |
| April. d. h. m. | MAR | 10 23 1 | 10 19 9 | 31 23 11 | MAR | 7 14 11 | 8 3 4 |
| 1 5 44 | APRIL | 9 11 45 | 9 4 55 | | APRIL | 6 2 55 | 6 12 7 |
| | MAY . | 9 0 29 | 8 15 51 | | 0 | 20 21 17 | 20 18 12 |
| į | June . | 7 13 13 | 7 4 38 | | MAY . | 5 15 39 | 5 19 25 |
| | 0 | [22 7 35] | 22 10 32 | | June . | 4 4 23 | 4 2 3 |
| | July. | 7 1 57 | 6 19 22 | | JULY. | 3 17 7 | 398 |
| . I | AUG | 5 14 41 | 5 11 40 | | Aug | (2 5 51 | 1 17 42 |
| | SEPT | 4 3 25 | 4 4 43 | | Aug. | (31 18 35 | 31 4 41 |
| | Ост | 3 16 9 | 3 21 35 | | SEPT | 30 7 19 | 29 18 89 |
| | Nov | 2 4 53 | 2 13 21 | | 0 | (15 1 41 | 15 6 48 |
| | Dec | (1 17 37 | 2 3 28 | | Oct | {29 20 3 | 29 11 32 |
| | DEC | 81 6 21 | 31 15 42 | | Nov | 28 8 47 | 28 6 25 |
| | | | | | DEC | 27 21 31 | 28 1 51 |
| 1171. | JAN. | 29 19 5 | 30 2 6 | | | | |
| C. | FEB | 28 7 49 | 28 11 0 | 1168. | JAN | 26 10 15 | 26 20 11 |
| | MAR. | 29 20 34 | 29 19 2 | F. | FEB. | 24 22 59 | 25 12 5 |
| 1 11 33 | APRIL | 28 9 18 | 28 3 0 | | MAR. | 26 11 44 | 27 1 1 |
| 1 11 00 | May . | 27 22 2 | 27 12 0 | April. 1 5 0 | APRIL | 25 0 28 | 25 11 6 |
| | JUNE . | | 25 22 57 | 100 | MAY. | 24 13 12 | 24 19 8 |
| | JULY. | | 25 12 29 | | JUNE . | 23 1 56 | 23 2 13 |
| 1 | Aug. | | 24 4 36 | | | 22 14 40 | 22 9 27 |
| | SEPT. | 1 | 22 22 36 | | JULY . | | 20 17 46 |
| 1 | Ост. | 1 / | 22 17 15 | | Aug | | 19 4 8 |
| | 0 | (6 8 4 | | | SEPT | | 18 16 47 |
| | Nov. | 12 | | | Oct | 19 4 52 | 17 8 5 |
| 1 | DEC. | 1 - | 21 3 5 | | Nov. | 17 17 36 | |
| | | 20 10 10 | 22 0 0 | | DEC | 17 6 20 | 17 1 27 |
| 1170. | JAN. | . 19 3 54 | 19 16 28 | 1167. | JAN | 15 19 4 | 15 19 52 |
| B. | FEB. | . 17 16 38 | 18 3 17 | E. | FEB | 14 7 48 | 14 14 1 |
| 1 | MAR. | . 19 5 22 | 19 11 57 | | 0 | (1 2 10 | 1 2 36 |
| 1 17 22 | APRIL | 17 18 6 | 17 19 14 | | MAR. | {15 20 32 | 16 6 87 |
| } | 0 | § 2 12 28 | 2 17 34 | 1 10 49 | APRIL | 14 9 16 | 14 20 50 |
| 1 | MAY | | 17 2 11 | | MAY . | 13 22 0 | 14 8 27 |
| | JUNE | . 15 19 34 | 15 9 49 | | JUNE . | 12 10 44 | 12 17 57 |
| | July | . 15 8 18 | 14 19 18 | | JULY. | 11 23 28 | 12 2 18 |
| | Aug. | | 13 7 28 | , | Aug | (10 12 12 | 10 10 18 |
| | SEPT. | . 12 9 46 | 11 22 41 | | 0 | 25 6 34 | 25 2 12 |
| | Ост. | . \ \ 11 22 30 | | | SEPT | 9 0 56 | 8 19 8 |
| | -0 | 26 16 59 | 26 15 44 | - | Ocr | 8 13 40 | 8 5 7 |
| 1 | Nov. | | | ļ | Nov. | 7 2 24 | 6 16 58 |
| | DEC. | 9 23 58 | 10 7 11 | | DEC | 6 15 8 | 6 6 27 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | | rue New Moon. Full Ecl.) |
|--|--|--|---|---------------------------------------|---|--|---|
| D. | JAN FEB O MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov | d. h. m. 5 | d. h. m. 4 21 40 3 14 5 18 19 12 5 7 0 3 23 29 3 14 39 2 3 59 1 15 31 31 1 42 14 3 17 29 11 17 27 21 1 27 7 20 25 18 27 25 6 27 | B.C. 1163. g. April. d. h. m. 1 10 4 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV | \[\begin{array}{cccccccccccccccccccccccccccccccccccc | . h. m. 1 23 23 1 9 14 1 18 29 1 3 40 19 13 42 19 1 22 18 10 29 17 15 5 17 6 46 12 23 46 14 17 7 14 9 47 18 0 56 17 1 3 |
| 1165. c.s. March. 81 22 26 1164. A. April. 1 4 15 | JAN. FEB. MAR. | 24 1 25 (7 19 47 22 14 9 23 2 54 21 15 83 21 4 22 19 17 6 19 5 50 (3 0 12 17 18 36 16 7 18 15 20 2 14 8 40 13 21 30 12 10 16 10 22 5 12 11 4 11 0 2 | 28 19 21 8 9 16 22 9 16 23 0 5 21 15 32 21 6 59 19 21 49 19 11 35 2 10 47 18 0 11 16 11 58 15 23 4 14 10 2 13 20 51 4 12 7 35 8 10 18 26 12 5 47 6 10 18 9 | E.D. March. 31 21 42 | DEC. JAN. FEB. MAR. APRIL MAY O JUNE JULY AUG. SEPT. OCT. NOV. O DEC. JAN. FEB. MAR. APRIL | 22 3 51 20 16 35 19 5 19 20 18 4 19 6 48 18 19 32 { 2 18 54 17 8 16 16 21 0 15 9 44 13 22 28 18 11 12 { 11 28 56 26 18 18 11 12 40 10 1 24 8 14 8 9 2 52 1 7 15 36 | 22 14 11 21 1 24 19 10 49 20 19 0 19 2 41 18 10 55 2 23 0 16 20 41 16 8 58 14 23 50 13 17 10 13 11 51 12 6 26 26 10 48 11 23 34 10 14 18 9 2 18 9 11 48 7 19 32 7 2 25 |
| | MAY JUNE JULY AUG SEPT OCT. NOV. DEC. | 9 1 5 8 14 8 7 3 2 5 16 5 4 5 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | 4 8 22 45 8 8 14 26 22 7 6 11 6 5 21 20 50 5 11 31 34 4 0 35 | 5 | MAY JUNE JULY AUG. SEPT OCT. NOV. DEC. | 5 17 4 5 5 48 3 18 32 2 7 16 (1 20 0 (31 8 44 29 21 28 | 5 9 31 4 17 57 3 4 44 1 18 29 1 11 14 31 6 8 30 1 41 29 20 13 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) |
|--|--|---|--|---|--|---|--|
| B.C. 1160. c. April. d. h. m. 1 3 30 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 27 22 56 26 11 40 28 0 25 {11 18 47 {26 13 9 26 1 58 24 14 37 24 3 21 22 16 5 21 4 49 | d. h. m. 28 12 22 27 1 29 28 11 41 11 14 14 27 0 41 26 2 29 24 9 14 23 17 0 22 2 46 20 15 18 | B.C. 1157. G.F. March. d. h. m. 31 20 56 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 25 14 6 24 2 50 24 15 35 23 4 19 22 17 3 21 5 47 20 18 31 19 7 15 17 19 59 17 8 48 | d. h. m. 25 9 40 24 2 8 24 18 45 23 10 34 23 0 54 21 13 27 21 0 27 19 10 31 17 20 20 17 6 29 |
| A CONTRACTOR OF THE CONTRACTOR | 0 | (5 28 11 | 6 5 3 | | Nov. | 15 21 27 | 15 17 16 |
| | Ocr | 20 17 33 | 20 6 50 | | DEC | 15 10 11 | 15 4 45 |
| | Nov | 19 6 17 | 19 0 50 | | | | |
| 1 . | DEC | 18 19 1 | 18 20 7 | 1156. | JAN | ∫13 22 55 | 13 16 58 |
| 1159. | JAN | 17 7 45 | 17 15 5 | E. | _ 0 | 28 17 17 | 29 7 2 |
| В. | FEB | 15 20 29 | 16 8 14 | | FEB. | 12 11 39 | 12 6 4 13 20 8 |
| | MAR | 17 9 13 | §17 22 36 | April. | MAR. | 14 0 23 12 13 7 | 12 11 6 |
| 1 9 19 | APRIL | 1 3 35 | (31 21 4 | 1 2 45 | APRIL MAY. | 12 15 1 | 12 2 31 |
| 1 9 19 | MAY. | 15 10 41 | 16 9 59 15 18 56 | | JUNE . | 10 14 35 | 10 17 46 |
| | June. | 13 23 25 | 14 2 26 | | JULY . | (10 3 19 | 10 8 17 |
| | JULY. | 13 12 9 | 18 9 34 | | 0 | 24 21 41 | 24 9 28 |
| | Aug | 12 0 53 | 11 17 23 | | A.ug | 8 16 3 | 8 21 4 8 |
| | SEPT | (10 13 37 | 10 2 44 | | SEPT | 7 4 47 | 7 10 7 |
| İ | 0 | 25 7 59 | 25 13 20 | | Oct | 6 17 31 | 6 21 47 |
| | Oct | 10 2 21 | 9 14 18 | Í | Nov | 5 6 15 | 5 9 1 |
| | Nov. | 8 15 5 | 8 4 20 | | DEC | 4 18 59 | 4 19 56 |
| 1 | DEC | 8 3 49 | 7 20 38 | | | | |
| 1158. | JAN | 6 16 33 | 6 14 30 | 1155. | JAN | 3 7 43 | 3 6 85 |
| A. | FEB | 5 5 18 | 5 8 45 | D. | 0 | 1 20 27 | 18 12 12 |
| | MAR. | 6 18 2 | 7 2 8 | | MAR. | 1 20 27 3 9 12 | 3 3 52 |
| 1 15 0 | APRIL | 21 12 24 | 21 10 43 | 1 8 34 | APRIL | 1 21 56 | 1 15 24 |
| 1 15 8 | MAY . | 5 6 46 4 19 30 | 5 17 31 5 6 25 | 2 001 | | (1 10 40 | 1 4 10 |
| | JUNE . | 00 | 3 16 58 | | MAY . | 30 23 24 | 80 18 24 |
| 1 | JULY | 1 | 3 1 54 | 1 | JUNE . | 29 12 8 | 29 9 50 |
| | A === | (1 9 49 | | | 0 | ∫14 6 3 0 | 14 1 4 |
| | A.UG. | · \\ 30 22 26 | | | JULY. | 29 0 52 | 29 1 48 |
| | ~ 0 | ∫1 4 16 48 | 14 14 49 | | Aug | 27 13 36 | 27 17 36 |
| | SEPT. | | | | SEPT | 26 2 20 | 26 8 85 |
| | Oct. | 28 23 54 | | | Nov. | 25 15 4 24 3 48 | 25 22 29 24 11 8 |
| | Nov. DEC. | . 27 12 38 . 27 1 22 | | | DEC. | 23 16 32 | 23 22 31 |
| | DEC. | . 27 1 22 | 26 18 2 | | 100. | 20 10 02 | 20 22 01. |
| | | | | | | 17 | |

| Mean Vernal Iquinox. | Month. | Mean New Moon. | True New Moon.) Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Full Ecl.) |
|--|---|--|--|---|---|---|--|
| B.C. 1154. C. April. d. h. m. 1 14 28 153. March. 31 20 12 | O JAN. FER. MAR. APRIL MAY . JUNE . OCT. NOV. DEC. JAN. FER. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. | d. h. m. 7 10 54 22 5 16 20 18 0 22 6 45 20 19 29 20 8 18 18 20 57 (3 15 19 18 9 41 16 22 25 15 11 9 14 28 58 18 12 37 18 1 21 11 14 5 10 2 49 10 15 83 9 4 17 8 17 1 7 5 45 6 18 29 5 7 18 | d. h. m. 7 11 56 22 8 48 20 17 59 22 2 51 20 12 9 19 22 45 18 11 18 8 18 4 18 2 5 16 18 42 15 12 15 15 5 87 18 21 49 18 12 8 12 0 20 10 10 29 10 10 29 10 10 29 10 19 2 9 2 88 8 10 19 6 19 4 6 5 57 4 19 84 8 11 55 8 6 14 | B.C. 1151. F. April. d. h. m. 1 7 49 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OOT O NOV DEC JAN FEB MAR | d. h. m. 18 20 26 17 9 10 18 21 55 17 10 39 { 2 5 1 { 16 23 23 15 12 7 15 0 51 13 13 35 12 2 19 { 11 15 3 { 26 9 25 10 3 47 9 16 31 8 5 15 6 17 59 8 6 48 6 19 27 6 8 11 4 20 55 4 9 39 2 22 23 (1 11 7 | d. h. m. 19 8 36 17 23 12 19 10 43 17 19 38 2 0 48 17 2 53 15 9 33 14 16 44 13 1 31 11 12 41 11 2 47 26 15 31 9 19 38 9 14 23 8 9 37 7 8 42 8 19 26 7 8 15 6 18 20 5 2 26 4 9 46 2 17 17 1 1 56 30 12 27 |
| 1152. o. April. 1 2 | JAN. FEB. MAR APRI JULI AUG SEP OCT ONOV | 1 21 25 16 15 47 18 18 18 18 18 18 18 18 18 18 18 18 18 | 5 2 1 14 7 16 9 12 9 1 19 22 8 81 11 25 7 80 0 45 2 28 11 15 6 29 19 45 2 2 8 2 47 2 18 0 5 4 27 9 8 8 25 17 15 2 25 2 4 6 28 15 6 10 22 6 2 4 22 0 2 6 6 0 4 58 20 19 5 | 1149. p.c. March. 31 19 2 8 0 0 8 6 6 1 5 6 6 1 5 6 6 6 1 5 6 6 6 6 6 6 6 | | . 30 12 35 . 29 1 19 . 28 14 8 . 27 2 47 . 25 15 31 {11 9 58 . 26 4 16 . 24 17 0 . 24 5 44 . 22 18 28 . 22 7 12 . 20 19 56 { 4 14 1 . 19 8 44 . 18 21 22 . 17 10 | 26 13 34 25 3 42 24 15 27 3 23 1 14 2 22 9 53 3 20 18 22 8 4 9 28 0 19 3 32 4 18 13 46 8 17 1 48 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--|---|--|---|--|--|---|
| B. April | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OOT NOV DEC | d. h. m. 15 11 36 {14 0 20 28 18 42 15 13 4 14 1 48 13 14 32 12 3 16 11 16 0 {10 4 44 {24 23 6 8 17 28 8 6 12 6 18 56 6 7 40 | d. h. m. 15 5 43 18 21 38 (1 3 17 15 18 57 14 6 6 18 21 18 12 10 47 11 22 48 10 9 24 24 10 34 8 19 32 8 5 42 6 16 16 6 3 21 | B.C. 1145. F.E. March. d. h. m. 31 18 42 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov DEC | d. h. m. 13 2 46 11 15 30 12 4 14 10 16 58 10 5 42 { 8 18 26 { 23 12 48 8 7 10 6 19 54 5 8 38 4 21 22 3 10 6 { 2 22 50 { 17 17 12 | d. h. m. 13 8 6 11 17 86 12 2 21 10 11 6 9 20 42 8 8 8 23 17 52 7 21 48 6 13 41 5 7 5 5 0 56 3 18 2 3 9 31 17 9 24 |
| 1147. A. 1 7 5 | JAN FEB O MAR APRIL MAY . JUNE . JULY . O AUG. SEPT: OCT. NOV. DEC. | 130 13 33 14 | 4 15 2 3 3 24 18 17 12 4 16 41 3 6 57 2 22 2 1 18 25 1 4 30 80 18 44 13 18 27 29 7 56 27 20 13 27 7 51 25 19 0 25 5 44 | 1144. D. April. 1 0 81 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | \[\begin{array}{cccccccccccccccccccccccccccccccccccc | 1 22 48 81 9 50 1 18 57 81 2 45 29 10 7 28 18 6 13 5 56 27 3 46 26 15 58 25 7 4 24 0 40 23 19 41 22 14 34 6 19 35 22 7 50 |
| 1146. G. 1 12 54 | JAN. FEB. MAR. APRII MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. | . 22 6 41 . 28 19 26 . 22 8 10 . 21 20 54 . 20 9 38 . 19 22 22 . 18 11 6 . 16 23 50 . 16 12 34 | 17 5 8 16 19 53 15 9 21 2 14 21 25 | | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov DEC | 20 9 7 18 21 51 20 10 86 18 23 20 18 12 4 { 2 6 26 {17 0 48 16 13 32 15 2 16 13 15 0 13 3 44 11 16 28 11 5 12 | 20 22 32 19 10 21 20 19 38 19 3 8 18 9 52 2 10 46 16 16 55 16 1 23 14 12 16 13 2 11 12 19 4 11 14 4 11 9 40 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Full Ecl.) |
|---|--|--|---|---|--|---|--|
| B.C. 1142. B. April. d. h. m. | Jan Feb Mar | d. h. m. 9 17 56 8 6 40 9 19 24 | d. h. m. 10 4 9 8 20 10 10 9 8 | B.C. 1139. E. April. d. h. m. | JAN FEB MAR | d. h. m. 6 9 6 4 21 50 6 10 34 | d. h. m. 6 2 18 4 17 22 6 9 17 |
| 1 12 8 | APRIL MAY . JUNE . JULY . AUG SEPT OCT | 8 8 8 7 20 52 6 9 36 5 22 20 4 11 4 2 23 48 | 8 19 11 8 3 7 6 9 55 5 16 48 4 0 45 2 10 45 (1 23 26 17 13 34 | 11 | APRIL MAY . JUNE . JULY . AUG SEPT OCT | 4 23 18 4 12 2 3 0 46 2 13 30 (1 2 14 (30 14 58) 29 3 42 28 16 26 | 5 1 27 4 17 6 3 7 31 2 20 26 1 7 57 30 18 33 29 4 53 28 15 22 |
| 1141. | Nov | $\begin{cases} 1 & 1 & 16 \\ 30 & 14 & 0 \\ 30 & 2 & 44 \end{cases}$ | 30 8 53 30 3 56 | 1138. | Nov DEC JAN | 27 5 10 26 17 54 25 6 38 | 27 2 13 26 13 29 25 1 14 9 14 59 |
| A.G. March. 81 17 57 | JAN FEB MAR O APRIL MAY | 11 11 19 26 5 4 25 18 23 | 27 15 3 28 5 48 11 4 2 1 26 17 1 5 26 2 1 | 1 1 1 24 | O FEB MAR APRIL MAY - JUNE | 25 8 7 23 20 51 23 9 85 21 22 19 | 23 13 44 25 3 14 23 17 43 23 8 56 22 0 18 |
| * | JUNE JULY AUG. SEPT. O OCT. Nov. | 23 19 5 | 7 22 1 2 1 20 11 3 5 21 1 5 19 22 5 | 0 8 9 7 51 | JULY O AUG. SEPT. OCT. Nov. DEC. | 5 5 25 | 1 40 1 20 1 |
| 1140. F. 81 28 4 | APRI | (17 1) (31 20) (L) 15 14 | 17 16 22 1 1 15 16 | 1137. 3 5 5 March 31 17 1 | APRI MAY | . 13 16 56 L 12 5 40 . 11 18 24 | 9 29 19 53 18 1 19 6 13 11 32 1 11 22 31 1 11 10 53 |
| | MAY JUNE AUG SEPT O OCT. NOV | 13 15 13 4 11 17 10 6 25 0 9 18 7 8 7 | 58 14 0 42 13 9 26 11 18 10 10 3 32 24 22 54 9 12 38 8 0 | 6 24 4 2 20 54 0 | JUNE JULY O AUG. SEPT OCT. NOV. DEC. | 9 19 5 24 14 1 8 8 8 6 21 2 6 10 4 22 4 | 9 16 27 4 24 8 50 6 8 8 48 0 7 1 8 4 6 16 44 8 5 7 6 |

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| Mean | | Mean New | True New | Mean | 35 | Mean New | True New |
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| Vernal Equinox. | Month. | Moon. O Full Ecl.) | Moon. O Full Ecl.) | Vernal Equinox. | Month. | Moon. | Moon, (O Full Ecl.) |
| D.O. | | d. h. m. | d. h. m. | B.C. 1133. | | d. h. m. | d. h. m. |
| B.C. 1136. | JAN | (3 0 16 | 3 7 19 | E. D. | JAN | 30 4 9 | 30 16 23 |
| A. | 0 | 17 18 38 | 17 19 38 | March. $d. h. m.$ | FEB | 28 16 53 | 29 6 50 |
| March. | Feb | 1 13 0 | 1 17 12 | 31 16 28 | MAR | 29 5 38 | 29 18 13 |
| d. h. m. 31 23 1 | MAR | 3 1 44 | 3 2 3 | | APRIL | 27 18 22 | 28 3 2 |
| - | APRIL | 1 14 28 | (1 10 28 | | 0 | (12 12 44 | 12 7 20 |
| | 3.5 | (1 3 12 | 30 19 21 | | MAY . | 27 7 6 | 27 10 17 |
| | MAY . | 30 15 56 | 30 5 37 | | JUNE . | 25 19 50 | 25 17 4 |
| | JUNE. | 29 4 40 | 28 18 4 | | July . | 25 8 34 | 25 0 27 |
| | 0 | (13 23 2 | 14 1 38 | | Aug | 23 21 18 | 23 9 27 |
| | JULY. | 28 17 24 | 28 8 57 | | SEPT | 22 10 2 | 21 20 51 |
| | Αυσ | 27 6 8 | 27 1 51 | | Ocr | 21 22 46 | 21 11 0 |
| | SEPT | 25 18 52 | 25 19 50 | | 0 | f 5 17 8 | 6 0 14 |
| | Oct | 25 7 36 | 25 13 41 | | Nov | 20 11 30 | 20 3 47 |
| | Nov | 23 20 20 | 24 6 15 | | DEC | 20 0 14 | 19 22 20 |
| | DEC | 23 9 4 | 23 20 43 | | | | |
| 4405 | T | 21 21 48 | 22 8 48 | 1132. | JAN | 18 12 58 | 18 17 15 |
| 1135. g. | JAN FEB | 20 10 32 | 22 8 48 20 18 41 | . C. | FEB | 17 1 42 | 17 11 5 |
| | MAR. | 21 23 17 | 20 13 41 | 31 22 17 | MAR | 18 14 27 | 19 2 87 |
| April. 1 4 50 | APRIL | 20 12 1 | 20 10 12 | | APRIL | 17 3 11 | 17 15 22 |
| 1 4 50 | MAY . | 20 0 45 | 19 17 37 | | MAY. | 16 15 55 | 17 1 81 |
| | JUNE . | 18 13 29 | 18 2 14 | | JUNE . | 15 4 39 | 15 9 51 |
| | JULY. | 18 2 13 | 17 13 6 | | JULY. | 14 17 28 | 14 17 25 |
| 1 | Aug. | 16 14 57 | 16 2 49 | | Aug | 13 6 7 | 13 1 16 |
| | SEPT | 15 3 41 | 14 19 22 | | SEPT | 11 18 51 | 11 10 16 |
| | Oct | 14 16 25 | 14 13 59 | | Oct | 11 7 35 | 10 21 2 |
| | Nov | (13 5 9 | 13 9 15 | | Nov | 9 20 19 | 9 9 51 |
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| 1104 | Jan. | 11 6 97 | 11 10 00 | 1131. | JAN | 7 21 47 | 7 17 25 |
| 1134. | 773 | 9 19 21 | 11 19 39 | в. | FEB | 6 10 31 | 6 10 55 |
| 1 | MAR. | 11 8 5 | 10 8 59 | | MAR | 7 23 15 | 8 4 15 |
| 1 10 39 | t . | 9 20 49 | 10 3 21 | April. | .0 | 22 17 37 | 22 18 25 |
| 1 10 00 | MAY. | (9 9 33 | 9 10 16 | 1 4 6 | APRIL | 6 11 59 | 6 20 21 |
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| | JUNE. | | 7 17 0 | | JUNE . | 4 13 27 | 4 22 25 |
| | JULY | | 7 0 37 | | JULY. | 4 2 11 | 4 8 32 |
| | Aug. | | 5 10 15 | | Aug | 2 14 55 | 2 17 37 |
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| | 1 | 1 1 | | II | | L | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|--|--|---|--|--|--|
| B.C. 1130. A. April. d. h. m. 1 9 54 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | d. h. m. 26 19 19 25 8 3 {12 2 25 26 20 48 25 9 32 24 22 16 23 11 0 22 23 44 21 12 28 { 5 6 50 20 1 12 19 13 56 18 2 40 17 15 24 | d. h. m. 26 13 39 25 4 54 12 11 14 26 20 47 25 12 39 25 3 45 23 17 36 23 6 0 21 17 15 4 18 8 20 3 55 19 14 30 18 1 14 17 12 14 | B.C. 1127. D. April. d. h. m. 1 3 21 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | d. h. m. { 8 16 7 { 23 10 29 21 23 13 23 11 58 22 0 42 21 13 26 20 2 10 { 4 20 32 { 19 14 54 18 3 38 16 16 22 16 5 6 14 17 50 { 14 6 34 { 29 0 56 | d. h. m. 8 14 16 23 16 40 22 1 49 28 10 9 21 18 28 21 3 45 19 14 59 5 1 18 19 4 39 17 20 44 16 14 31 16 8 49 15 2 20 14 18 1 28 17 44 |
| 1129. G.F. March. 81 15 48 | JAN. FEB. O MAR. APRIL MAY JUNE JULY AUG. O SEPT. OCT. NOV. DEC. | 18 18 21 18 7 5 11 19 49 11 8 88 9 21 17 24 15 83 8 10 1 7 22 48 | \[\begin{pmatrix} 1 & 1 & 0 & 0 \\ 15 & 0 & 0 & 0 \\ 18 & 18 & 45 \\ 11 & 19 & 58 \\ 11 & 11 & 16 \\ 7 & 10 & 2 & 1 \\ 24 & 2 & 18 \\ 18 & 15 & 50 \\ 8 & 4 & 41 \\ 9 & 6 & 16 & 42 \\ \end{pmatrix} \] | II . | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | 12 19 18 11 8 2 12 20 47 11 9 31 10 22 15 (9 10 59 24 5 21 8 23 48 7 12 27 6 1 11 5 13 55 4 2 39 (3 15 22 (18 9 45) (2 4 7 | 13 7 18 11 18 7 13 2 55 11 10 25 10 15 47 9 1 20 24 12 55 8 10 57 6 23 18 5 14 29 5 8 21 4 3 36 3 22 41 18 4 22 |
| 1128. E. 31 21 35 | Jan. Feb. Mar. Apri May June Aug Sept Oct. Nov. Dec. | 3 1 4 4 14 2 3 3 2 15 5 3 17 2 3 3 6 28 18 4 27 7 3 26 20 3 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | B.A. March. 31 14 59 | APRII MAY O JUNE JULY AUG. SEPT. | 31 16 51 30 18 19 29 7 3 28 19 47 (12 14 5 (27 8 3 26 21 11 25 9 5 | 1 6 88 1 18 16 31 3 20 3 29 10 39 7 28 17 18 9 12 17 18 1 27 0 21 5 26 8 55 9 24 19 58 3 23 10 2 7 23 3 1 1 21 22 2 |

| B.C. 1124. G. h. m. March. March. March. Mar. 20 3 8 8 20 16 38 8 8 1 20 18 25 6 2 10 2 16 16 19 10 28 15 12 23 18 28 11 23 8 6 19 10 28 15 12 23 18 25 19 22 6 18 12 23 19 32 18 18 18 18 18 18 18 18 18 18 18 18 18 | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|----------------------------|--------|------------------------------------|----------------|----------------------------|--------|------------------------------------|------------------------------|
| Jan. 20 1 89 20 11 56 d. h. m. | B.C. | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| d. h. m. Her. 18 14 28 19 3 48 March. March. Feb. 16 5 38 16 0 57 March. Mar. 20 3 8 20 16 38 20 16 38 14 14 Mar. 16 18 18 16 16 19 May. 18 15 52 19 2 35 May. 14 19 46 14 23 35 4 July. 16 6 4 16 0 28 Aug. 14 19 46 14 23 35 4 July. 16 6 4 16 0 28 Aug. 14 19 46 14 23 35 4 Oct. 11 23 37 32 12 18 55 Oct. 12 21 14 18 3 90 Aug. 11 58 80 13 14 11 Mar. 16 6 4 16 0 28 Aug. 11 20 35 Sept. 9 22 42 10 2 45 Oct. (12 20 16 12 744 0 27 14 88 27 22 9 Nov. 8 0 10 80 19 11 26 91 38 Mar. Jan. 9 10 28 9 11 42 86 6 6 6 1 38 5 22 10 Feb. 7 23 12 8 6 5 6 5 6 5 30 16 6 5 20 10 1 20 20 1 20 20 1 20 20 1 20 20 1 20 20 1 20 20 1 20 2 | | T. W | 20 1 89 | 20 11 56 | | JAN. | 17 16 49 | 17 10 29 |
| March. 31 20 47 Mar. 20 8 8 20 16 88 April 18 15 52 19 2 85 Oct. 12 20 16 12 7 44 O 27 14 38 27 22 9 Nov. 11 9 0 10 28 15 Dec. 10 21 44 10 16 56 April 1 2 88 0 41 8 12 52 April 1 2 88 0 41 8 12 52 Juny 5 14 53 51 7 27 Aug. 4 3 37 4 112 Sept. 21 6 21 2 9 44 C 2 16 32 7 17 5 21 Aug. 6 2 9 19 17 29 12 59 Nov. 8 0 10 8 0 19 Nov. 16 17 40 11 25 Juny 6 2 2 18 25 April 1 2 88 0 41 8 12 52 O 0 11 6 22 18 5 5 7 2 7 1 Aug. 6 2 9 19 17 29 12 59 Nov. 8 0 10 8 0 19 Nov. 8 0 10 8 0 19 Dec. 10 21 44 10 16 56 Juny 6 1 8 0 41 8 12 52 O 0 10 21 45 8 0 16 Juny 7 13 25 8 0 16 Juny 7 13 25 8 0 16 Juny 8 1 5 15 2 2 9 44 C 2 5 5 1 19 41 Oct. 0 16 23 27 17 5 21 Aug. 2 9 19 17 29 12 59 Nov. 8 0 10 8 0 12 51 Sept. 2 16 21 2 9 44 C 2 5 5 1 19 41 Oct. 0 12 28 1 2 9 44 C 2 5 5 1 19 41 Oct. 0 12 28 1 2 9 44 C 2 5 1 19 41 Oct. 0 12 28 1 2 9 44 C 2 5 1 15 19 41 Oct. 0 12 28 1 29 12 59 Nov. 2 20 10 26 22 18 27 7 1 Juny 2 42 23 41 25 7 14 Juny 2 42 23 41 25 7 14 Juny 2 42 23 41 25 7 14 Juny 2 42 23 41 25 7 14 Juny 2 42 23 41 25 7 14 Juny 2 42 23 41 25 7 14 Juny 2 42 23 41 25 7 14 Juny 2 42 25 24 16 58 Aug. 28 1 9 28 2 8 Sept. 21 19 55 21 19 8 51 Nov. 16 6 8 1 6 6 0 Oct. 12 28 7 20 21 41 Nov. 19 15 21 19 8 51 | d. h. m. | | | - 1 | | | 16 5 33 | |
| APRIL 18 15 52 19 2 35 MAY . 18 4 96 18 10 30 JUNE . 16 17 20 16 17 25 JUNE . 16 17 20 16 17 25 JUNE . 18 8 30 13 14 11 15 33 30 AUG . 14 18 48 14 8 41 8 41 8 41 8 41 8 8 14 8 8 11 8 8 7 92 12 18 55 OCT . {12 20 16 12 7 44 O {27 14 38 27 22 9 Nov 10 21 44 10 16 56 DEC . 10 21 44 10 16 56 DEC . 10 21 44 10 16 56 APRIL 12 23 14 18 25 20 OCT . 10 21 44 10 16 56 JUNE . 10 21 44 10 16 56 APRIL 12 23 14 18 37 30 APRIL 12 23 14 18 37 30 APRIL 12 23 14 18 37 30 APRIL 12 23 14 18 37 30 APRIL 12 36 A | | | | | | | | |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) |
|---|---|---|---|--|--|--|--|
| B.C. 1118. G. April. d. h. m. 1 7 40 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG | d. h. m. {14 7 59 29 2 21 12 20 48 14 9 28 12 22 12 12 10 56 10 28 40 {10 12 24 25 6 46 9 1 8 | d. h. m. 14 15 57 29 3 10 13 1 33 14 10 0 12 18 0 12 2 31 10 12 34 10 0 57 25 9 19 8 15 56 | B.C. 1115. c. April. d. h. m. 1 1 7 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT | d. h. m. 10 23 9 9 11 53 11 0 38 9 13 22 { 9 2 6 23 20 28 7 14 50 7 3 34 5 16 18 4 5 2 3 17 46 | d. h. m. 11 6 52 10 0 1 11 14 20 10 1 36 9 10 23 23 13 55 7 17 42 7 0 40 5 8 19 3 17 35 3 5 10 |
| 1117. F.E. March. 31 13 29 | SEPT. OCT. NOV. DEC. DEC. SEPT. OCT. APRIL MAY JUNE JULY | $\begin{cases} 1 & 7 & 0 \\ 30 & 19 & 44 \\ 30 & 8 & 28 \\ 28 & 21 & 12 \\ 28 & 9 & 56 \end{cases}$ | 7 9 9 7 3 83 5 21 49 5 14 40 4 5 18 2 17 9 8 2 45 1 10 39 80 17 40 80 0 54 28 9 28 27 20 22 | 1114. B. 1 6 56 | DEC JAN FEB MAR APRIL O MAY . JUNE . JULY . | 2 6 30 17 0 52 1 19 14 31 7 58 29 20 42 28 9 26 29 22 10 28 10 54 18 5 16 27 28 38 26 12 22 26 1 6 | 1 19 22 17 9 1 1 11 59 81 6 12 80 0 47 28 18 17 80 9 39 28 22 28 12 20 9 28 8 89 26 17 14 26 1 10 |
| 1116. p. 31 19 18 | Aug. Sept. Oct. Nov. O Dec. Jan. Feb. Mar. April May O June | 25 11 24 25 0 8 28 12 52 8 7 14 23 1 36 21 14 20 20 3 4 21 15 49 20 4 38 19 17 17 8 11 39 18 6 1 | 18 0 26 | 1113. A.G. March. 31 12 45 | Aug Sept Oct Nov Dec Jan Feb Mar O . April May . June | 24 18 50 28 2 34 22 15 18 21 4 2 20 16 46 19 5 30 17 18 14 18 6 59 { 2 1 21 16 19 43 16 8 27 14 21 11 | 24 9 24 22 18 44 22 5 41 20 18 28 20 9 7 19 1 15 17 18 18 18 10 58 2 2 9 17 3 2 16 17 12 15 5 23 |
| | JULY AUG. SEPT. OCT. NOV. O | . 16 7 29 . 14 20 18 . 14 8 57 . 12 21 41 27 16 8 | 15 17 58 14 6 33 13 22 11 12 16 23 27 18 37 | | JULY AUG. SEPT. O OCT. Nov. DEC. | . 12 22 39 | 13 1 31 3 11 10 58 5 26 0 25 7 10 20 53 1 9 7 35 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl |
|---|--|--|---|--|---|---|--|
| B.C. 1112. F. March. d. h. m. 81 18 33 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV | $\begin{array}{c} d.\ h.\ m. \\ 7\ 14\ 19 \\ 6\ 3\ 3 \\ 7\ 15\ 48 \\ 22\ 10\ 10 \\ 6\ 4\ 32 \\ 5\ 17\ 16 \\ 4\ 6\ 0 \\ 3\ 18\ 44 \\ \left\{ \begin{array}{c} 2\ 7\ 28 \\ 31\ 20\ 12 \\ \left\{ \begin{array}{c} 15\ 14\ 34 \\ 30\ 8\ 56 \\ 29\ 21\ 40 \\ 28\ 10\ 24 \end{array} \right. \end{array}$ | d. h. m. 7 7 52 5 21 31 7 12 9 22 19 4 6 3 33 5 19 9 4 10 18 4 0 27 2 13 22 (1 1 14 15 1 51 30 12 26 29 23 24 28 10 13 | B.C. 1109. C.B. March. d. h. m. 31 12 0 | JAN O FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov | d. h. m. { 5 5 29 19 23 51 3 18 13 4 6 58 2 19 42 { 2 8 26 81 21 10 30 9 54 {15 4 16 29 22 38 28 11 22 27 0 6 26 12 50 25 1 34 | d. h. m. 5 14 55 19 21 59 4 1 9 55 2 17 50 2 1 47 81 10 49 29 21 54 15 12 16 29 11 88 28 8 50 26 22 5 26 16 48 25 10 89 |
| 1111. E. April. 1 0 22 | MAY . JUNE . JULY . AUG . O SEPT . OCT . Nov . | 22 16 16 21 5 0 { 4 23 22 19 17 44 19 6 28 17 19 12 | 26 7 18 24 20 29 24 10 59 28 2 28 22 18 4 21 9 21 4 10 27 19 23 49 19 18 18 18 1 33 | 1108. 4. §1 17 49 | DEC O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov DEC | 24 14 18 | 25 2 25 8 1 55 23 15 41 22 2 17 23 10 46 21 17 55 19 8 8 4 19 56 18 18 15 17 6 8 15 22 4 15 16 7 14 11 8 14 6 4 |
| 1110. D. 1 61 | JAN FEB MAR 1 APRIL MAY . JUNE . JULY . AUG SEPT. OCT. NOV. DEC. | 15 20 40 14 9 24 15 22 9 14 10 55 13 28 37 12 12 21 12 1 5 10 13 45 9 2 35 8 15 17 | 15 28 12 14 8 47 15 18 5 14 8 48 7 13 14 38 1 12 3 38 1 12 3 38 1 11 18 29 10 10 56 3 9 4 7 7 8 21 0 1 7 12 46 | 11 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | 128 17 28 12 11 50 11 0 34 12 13 19 11 2 8 10 14 47 { 9 3 31 23 21 54 8 16 15 7 4 59 5 17 48 5 6 27 3 19 11 3 7 55 | 28 13 0 4 11 14 8 13 2 11 10 5 10 18 9 0 4 23 23 5 8 7 5 6 16 8 5 3 5 4 18 3 11 3 6 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--------------------------------------|---|---|---|--|--|---|---|
| B.C. 1106. F. April. d. h. m. 1 5 26 | JAN FEB MAR APRIL MAY . JUNE . JULY , AUG SEPT OCT | d. h. m. { 1 20 39 { 81 9 28 { 1 22 7 { 81 10 51 29 23 35 29 12 19 28 1 3 27 13 47 26 2 31 24 15 15 24 3 59 (7 22 21 | d. h. m. 2 1 24 81 19 34 2 11 16 81 28 57 80 9 52 29 17 51 28 0 55 27 8 15 25 16 44 24 3 12 23 16 8 8 6 45 | B.C. 1103. B. d. h. m. March. 31 22 58 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 28 0 33 26 13 17 28 2 1 26 14 45 26 3 29 24 16 13 24 4 57 22 17 41 21 6 25 20 19 9 19 7 58 18 20 37 | d. h. m. 27 18 36 26 8 26 27 28 18 26 14 36 26 6 2 24 20 51 24 10 37 22 28 15 21 11 2 20 22 17 19 9 15 18 20 4 |
| 1105, | Nov Dec | 22 16 43 22 5 27 | 22 7 33 22 0 58 20 19 20 | 1102. A. | Jan Feb | 17 9 21 15 22 5 § 2 16 27 | 17 6 44 15 17 29 3 6 28 |
| E.D. March. 81 11 15 | FEB. APRIL O MAY JUNE JULY AUG. SEPT. OCT. | 19 6 55 19 19 40 18 8 24 { 3 2 46 { 17 21 8 . 16 9 52 . 15 22 86 . 14 11 20 | 19 13 21 20 5 47 18 19 49 2 18 45 18 7 17 16 16 45 16 1 3 14 9 12 12 18 7 | April. 1 4 42 | MAR A.PRIL. MAY . JUNE . JULY . A.UG O SEPT OCT NOV DEC | 17 10 50 15 23 34 15 12 18 14 1 2 18 13 46 12 2 30 26 20 52 10 15 14 10 3 58 8 16 42 8 5 26 | 17 4 47 15 17 9 15 6 52 13 22 0 13 13 35 12 5 23 26 8 58 10 20 35 10 10 49 8 23 54 8 11 47 |
| 1104. c. 81 17 | Nov. DEC. JAN. FEB. MAR. APRI' O MAY JUNE JULY AUG. SEPT OCT. Nov. DEC. | 10 14 16 9 3 0 7 15 44 9 4 29 1 7 17 18 22 11 33 7 5 57 5 18 41 5 7 25 3 20 9 2 8 56 1 21 3 16 15 5 31 10 2 29 23 | 10 5 51 8 21 3 7 13 26 9 6 15 7 22 37 5 22 9 34 7 13 40 6 2 57 5 14 25 9 4 0 39 2 10 20 7 1 20 8 9 16 13 47 11 31 6 34 5 29 17 45 | . | JAN. FEE. O MAR. APRIL MAY JUNE JULY O AUG. SEPT. OCT. NOV. DEC. | 4 8 25 3 21 7 2 9 51 (1 22 8 31 11 1 (15 5 4 | 5 8 18 20 10 48 5 17 24 4 2 43 3 12 35 2 0 19 1 14 10 81 6 0 1 15 0 45 8 29 23 8 7 28 16 33 1 28 9 13 5 27 0 20 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|---|---|--|--|--|---|---|
| B.C. 1100. E. March. d. h. m. 31 16 19 | JAN O FEE MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | d. h. m. 24 15 48 (8 10 5) (28 4 27 24 17 11 28 5 55 22 18 39 21 7 28 20 20 7 (4 14 29) (19 8 51 17 21 35 17 10 19 15 28 3 15 11 47 | d. h. m. 25 0 30 8 10 36 23 9 46 24 17 48 23 1 27 22 9 41 20 19 34 20 7 56 4 17 6 18 23 4 17 16 35 17 11 22 16 5 58 15 23 0 | B.C. 1097. B.A. March. d. h. m. 31 9 46 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O DEC | d. h. m. 22 6 53 20 19 37 21 8 21 19 21 5 19 9 49 { 3 4 11 { 17 22 33 17 11 17 16 0 1 14 12 45 14 1 29 { 12 14 18 27 8 85 12 2 57 | d. h. m. 22 14 32 21 7 30 21 21 38 20 8 51 19 17 42 2 20 30 18 1 9 17 8 21 15 16 18 14 1 51 18 18 35 12 3 45 27 17 45 11 20 9 |
| 1099. D. 31 22 8 | Jan Fee Mar April May . June . July . Aug Sept Oct Nov Dec O | 14 0 31 12 13 15 14 2 0 12 14 44 12 3 23 10 16 12 10 4 56 8 17 40 7 6 24 6 19 8 5 7 52 { 4 20 36 { 19 14 58 3 9 20 | 14 18 33 18 1 20 14 10 42 12 18 18 12 1 7 10 8 16 9 16 49 8 3 47 6 17 47 6 10 43 5 5 44 5 1 16 19 11 51 | 1096. g. 31 15 35 | Jan Feb Mar April May . O June . July . Aug Sept Oct Nov | 10 15 41 9 4 25 10 17 10 9 5 54 { 8 18 38 {23 13 0 7 7 22 6 20 6 5 8 50 3 21 34 3 10 18 1 28 2 { 1 11 46 { 81 0 30 | 10 18 59 9 8 9 11 1 22 9 16 85 9 5 19 28 8 11 7 15 48 7 0 43 5 9 2 8 17 39 8 8 20 1 14 26 1 8 8 80 17 24 |
| April. | FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O DEC | 1 22 4 3 10 49 1 23 33 { 1 12 17 { 14 19 23 29 18 45 29 2 29 27 15 18 26 3 57 25 16 41 24 5 25 { 8 23 47 23 18 9 | 2 11 39 4 0 32 2 10 32 1 18 24 31 1 11 14 19 26 29 7 59 28 15 52 27 1 50 25 14 36 25 6 18 24 0 25 9 3 35 28 19 42 | 1095. F. 31 21 24 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 29 13 14 28 1 59 29 14 43 {13 9 5 28 3 27 27 16 11 26 4 55 25 17 39 24 6 23 22 19 7 22 7 51 20 20 35 20 9 19 | 29 9 0 28 1 26 29 17 56 18 9 48 28 9 88 27 28 58 26 12 24 25 28 28 24 9 31 22 19 25 22 5 41 20 16 32 20 4 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl). | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|---|---|--|--|---|--|---|---|
| B.C. 1094. E. April. d. h. m. 1 3 12 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG | d. h. m. 18 22 3 17 10 47 18 23 31 2 17 53 17 12 15 17 0 59 15 13 43 15 2 27 13 15 11 (12 3 55 | d. h. m. 18 16 12 17 5 15 18 19 17 3 2 44 17 10 12 17 1 35 15 16 50 15 7 22 13 20 49 12 9 17 | B.C. 1091. A. March. d. h. m. 31 20 39 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG | d. h. m. {15 13 12 {30 7 84 14 1 56 15 14 41 14 3 25 13 16 9 12 4 53 {11 17 37 26 11 59 10 6 21 | d. h. m. 15 28 29 30 5 35 14 9 28 15 17 51 14 1 25 13 9 5 11 17 55 11 4 56 26 16 25 9 18 44 |
| | OCT Nov DEC | 26 22 17 11 16 39 10 5 23 9 18 7 | 26 9 42 11 21 0 10 8 15 9 19 10 | 1090. | SEPT OCT Nov DEC | 8 19 5 8 7 49 6 20 33 6 9 17 | 8 11 18 8 5 45 7 0 48 6 18 52 5 10 46 |
| 1093. p.c. March. 31 9 1 | JAN FEB MAR O APRIL MAY . | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 8 5 46 6 16 12 7 2 58 22 16 7 5 14 23 5 3 10 | April. 1 2 28 | FEB MAR APRIL MAY . JUNE . | 19 16 23 3 10 45 4 23 30 3 12 14 3 0 58 1 13 42 | 19 10 8 8 23 53 5 10 16 3 18 31 3 1 30 (1 8 18 |
| | JUNE . JULY . AUG O SEPT OCT | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 3 17 28 3 8 57 2 1 0 31 16 51 14 18 29 30 7 55 29 21 49 | , , | Aug Sept Oct Nov | 30 15 10 29 3 54 27 16 38 27 5 22 | 16 3 0 30 1 42 28 14 12 27 5 48 27 0 0 25 19 32 |
| 1092. B. 31 14 50 | Jan Feb April | 24 17 8 | 28 10 25 27 21 43 26 7 47 24 16 56 26 1 43 24 11 0 | 1089. F.E. March. 31 8 17 | DEC O JAN FEB MAR APRIL | \$\begin{cases} 9 & 1 & 12 \\ 23 & 19 & 34 \\ 22 & 8 & 18 \\ 22 & 21 & 2 \\ 21 & 9 & 46 \end{cases} | 8 21 45 24 7 58 22 22 21 23 9 38 21 18 24 |
| | MAY JUNE JULY AUG. SEPT. OCT. Nov. DEC. | . 24 7 20 . 22 20 4 . 22 8 48 . 20 21 32 . 19 10 16 . 18 23 0 . 17 11 44 | 23 21 38 22 10 19 22 1 15 20 18 0 19 11 39 19 5 3 17 21 14 | | 70 | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 19 8 15 33 18 15 33 12 17 0 29 15 11 52 10 13 19 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|----------------|----------------------------|---------|--|----------------|
| B.C. 1088. | | d. h. m. | d. h. m. | B.C. 1085. | | d. h. m. | d. h. m. |
| March. | JAN | 12 4 22 | 12 9 6 | A.G. | JAN | 9 19 32 | 9 14 15 |
| d. h. m. | FEB | 10 17 6 | 11 3 2 | March. | FEB | 8 8 16 | 8 2 35 |
| 31 14 5 | MAR | 12 5 51 | 12 18 35 | d. h. m. 31 7 32 | MAR. | 8 21 1 | 8 15 49 |
| | APRIL | 10 18 35 | 11 7 11 | 0 | APRIL | 7 9 45 | 7 6 3 |
| | MAY . | 10 7 19 | 10 17 8 | | 0 | 22 4 7 | 22 10 17 |
| | JUNE . | 8 20 3 | 9 1 13 | | MAY . | 6 22 29 | 6 21 6 |
| | JULY. | 8 8 47 | 8 8 33 | | June . | 5 11 13 | 5 12 30 |
| | AUG | 6 21 31 | 6 16 10 | | JULY. | 4 23 57 | 5 8 35 |
| | SEPT | 5 10 15 | 5 0 58 | | Aug. | 3 12 41 | 3 17 51 |
| | Oct | .4 22 59 | 4 11 40 | | SEPT. | 2 1 25 | 275 |
| | Nov | (3 11 43 | 3 0 38 | | | (1149 | 1 19 26 |
| | 0 | 18 6 5 | 18 15 24 | | Ост | 31 2 53 | 31 7 5 |
| | DEC | 3 0 27 | 2 15 53 | | Nov | 29 15 37 | 29 18 14 |
| | | | | | -n | 29 4 21 | 29 4 55 |
| 1087. | JAN | § 1 13 11 | 1 8 56 | | DEC | 29 4 21 | 49 4 99 |
| C. | _ | (31 1 55 | 31 2 51 | 1084. | JAN | 27 17 5 | 27 15 12 |
| | FEB | | ••• | F. | FEB. | 26 5 49 | 26 1 25 |
| 31 19 54 | MAR | § 1 14 40 | 1 20 31 | | 0 | (13 0 11 | 13 13 51 |
| | | (31 3 24 | 31 12 41 | 31 13 21 | MAR | 27 18 34 | 27 12 10 |
| | APRIL | 29 16 8 | 30 2 40 | | APRIL | 26 7 18 | 26 0 1 |
| | .0 | [14 10 30 | 14 1 55 | | MAY. | 25 20 2 | 25 18 25 |
| | MAY. | 29 4 52 | 29 14 19 | | June . | 24 8 46 | 24 4 22 |
| | JUNE. | 27 17 36 | 28 0 3 | | JULY. | 23 21 30 | 28 20 11 |
| | JULY. | 27 6 20 | 27 8 45 | | Aug. | 22 10 14 | 22 12 38 |
| | Aug | 25 19 4 | 25 17 20 | | 0 | 6 4 36 | 5 17 7 |
| | SEPT | 24 7 48 | 24 2 38 | | SEPT | $\begin{cases} 0 & 4 & 50 \\ 20 & 22 & 58 \end{cases}$ | 21 4 27 |
| | Oct | 23 20 32 | 23 13 5 | | Oct | 20 11 42 | 20 19 14 |
| | 0 | 7 14 54 | 7 21 35 | | Nov. | 19 0 26 | 19 8 40 |
| | Nov | (22 9 16 | 22 0 58 | | DEC. | 18 13 10 | 18 20 39 |
| | DEC | 21 22 0 | 21 14 20 | | DEC | 10 10 10 | 10 20 00 |
| 1086. | JAN | 20 10 44 | 20 5 3 | 1083. | JAN | 17 1 54 | 17 7 18 |
| В. | FEB | 18 23 28 | 18 20 52 | E. | FEB. | 15 14 38 | 15 16 35 |
| April. | MAR. | 20 12 12 | 20 13 10 | | 0 | (2 9 0 | 2 17 56 |
| 1 1 43 | APRIL | 19 0 56 | 19 5 13 | 31 19 10 | MAR. | 17 3 22 | 17 1 14 |
| | 0 | § 3 19 18 | 3 17 7 | | APRIL | 15 16 6 | 15 9 56 |
| | MAY . | 18 13 40 | 18 20 14 | | MAY . | 15 4 50 | 14 19 85 |
| | JUNE . | 17 2 24 | 17 9 44 | | JUNE . | 13 17 34 | 13 7 6 |
| | JULY . | 16 15 8 | 16 21 40 | - | JULY . | 13 6 18 | 12 20 54 |
| | Aug | 15 3 52 | 15 8 24 | | Aug. | (11 19 2 | 11 12 57 |
| | SEPT | 13 16 36 | 13 18 36 | | 0 | 26 13 24 | 26 8 52 |
| | Oct | ſ13 5 20 | 13 4 51 | | SEPT | 10 7 46 | 10 6 29 |
| | 0 | 27 23 42 | 27 21 36 | | Oct. | 9 20 30 | 10 0 24 |
| | Nov | 11 18 4 | 11 | | Nov. | | |
| | DEC. | TT TO 4 | 11 15 30 | . 1 | TAOA. ' | 8 9 14 | 8 17 30 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|---|--|--|---|---|--|
| B.C. 1082. D. April. d. h. m. 1 0 58 1081. C.B. March. 31 6 47 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG. O SEPT OCT NOV DEC JAN FEB | d. h. m. 6 10 42 4 23 26 19 17 48 6 12 11 5 0 55 4 13 39 3 2 28 2 15 7 1 3 51 15 22 13 30 16 35 29 5 19 28 18 3 27 6 47 26 19 31 25 8 15 23 20 59 24 9 44 22 22 28 22 11 12 20 23 56 20 12 40 19 1 24 17 14 8 17 2 52 | d. h. m. 6 22 2 5 8 52 19 17 58 6 17 50 5 1 32 4 8 52 2 16 53 2 2 40 31 15 4 16 0 59 30 6 23 29 0 10 28 19 16 27 14 7 27 7 16 25 21 46 24 9 22 24 18 29 23 1 52 24 18 29 23 1 52 21 46 21 15 4 21 16 18 35 21 16 18 35 21 16 18 35 21 13 41 21 15 9 14 | B.C. 1079. G. March. d. h. m. 31 18 25 | JAN FEB MAR APRIL MAY - OJUNE . JULY . AUG SEPT OCT NOV ODEC JAN FEB MAR . APRIL MAY . OJUNE . JULY . AUG SEPT OCT NOV | d. h. m. 3 1 52 1 14 36 3 8 21 1 16 5 { 1 4 49 30 17 38 { 14 11 55 29 6 17 28 19 1 27 7 45 25 20 29 25 9 18 28 21 57 { 8 16 19 22 0 58 20 12 9 22 0 58 20 13 37 20 2 21 { 3 20 43 18 15 5 18 3 49 16 16 33 15 5 17 14 18 1 18 6 45 | d. h. m. 3 3 29 1 22 4 3 14 48 2 4 49 1 16 2 31 0 59 14 3 7 29 8 40 27 0 26 25 10 17 24 22 9 23 12 14 9 2 28 23 4 18 21 21 42 20 15 25 22 8 16 20 23 21 20 12 12 3 10 13 18 22 56 18 8 14 16 16 59 15 2 4 14 12 8 12 23 15 |
| 1080. A. 31 12 8 | JAN. FEB. MAR. APRII MAY JUNE O JULY AUG. SEPT. OCT. NOV. DEC. O | . 12 5 48 . 13 18 92 . 12 7 16 . 11 20 0 . 10 8 44 . 25 3 6 . 9 21 28 . 8 10 12 | 4 8 28 | | JAN. FEB. MAR. APRIL O MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. | $\begin{array}{c} 12\ 19\ 29 \\ \\ 11\ 8\ 18 \\ 9\ 20\ 57 \\ 10\ 9\ 42 \\ \left\{ \begin{array}{c} 8\ 22\ 26 \\ 23\ 16\ 48 \\ 8\ 11\ 10 \\ 6\ 23\ 54 \\ 6\ 12\ 88 \\ 5\ 1\ 22 \\ 3\ 14\ 6\ 8\ 2\ 50 \\ 1\ 15\ 84 \\ \left\{ \begin{array}{c} 1\ 4\ 18 \\ 80\ 17\ 2 \end{array} \right. \end{array}$ | 8 16 9 7 6 32 6 19 25 5 6 56 3 17 36 3 4 1 1 14 35 1 1 28 |

| d. h. m. d. h. m. 29 5 46 29 0 25 27 18 31 27 12 52 29 7 15 29 2 19 {18 1 37 18 10 19 27 19 59 27 16 47 27 8 48 27 8 0 25 21 27 25 28 24 25 10 11 25 14 21 28 22 55 24 4 24 22 11 39 22 17 29 7 6 1 6 17 43 (22 0 28 22 5 42 20 13 7 20 17 12 20 1 51 20 4 5 | B.C. 1073. G.E. March. d. h. m. 31 5 18 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | d. h. m. 26 20 56 {10 15 18 {25 9 40 25 22 25 24 11 9 28 28 58 22 12 87 22 1 21 { 5 19 48 {20 14 5 19 2 49 18 15 38 17 4 17 16 17 1 | d. h. n 27 7 50 10 18 6 25 17 86 26 1 42 24 8 56 23 16 22 22 1 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 17 8 50 |
|---|--|--|--|--|
| 27 18 81 27 12 52 29 7 15 29 2 19 {18 1 37 18 10 19 27 19 59 27 16 47 27 8 48 27 8 0 25 21 27 25 28 24 25 10 11 25 14 21 28 22 55 24 4 24 22 11 39 22 17 29 7 6 1 6 17 43 (22 0 28 22 5 42 20 18 7 20 17 12 20 1 51 20 4 5 | 1073. G.F. March. d. h. m. 31 5 18 | O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV | 26 20 56 {10 15 18} {25 9 40} 25 22 25 24 11 9 28 28 58 22 12 87 22 1 21 { 5 19 48} {20 14 5 19 2 49 18 15 38 17 4 17 | 27 7 50 10 13 6 25 17 38 26 1 42 24 8 56 23 16 22 22 1 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| 27 18 31 27 12 52 29 7 15 29 2 19 {13 1 37 13 10 19 {27 19 59 27 16 47 27 8 43 27 8 0 25 21 27 25 28 24 25 10 11 25 14 21 23 22 55 24 4 24 22 11 39 22 17 29 , 7 6 1 6 17 43 (22 0 23 22 5 42 20 13 7 20 17 12 20 1 51 20 4 5 | G.F. March. d. h. m. 31 5 18 | O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 10 13 6 25 17 38 26 1 42 24 8 56 23 16 22 22 1 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| 29 7 15 29 2 19 {18 1 37 13 10 19 {27 19 59 27 16 47 27 8 43 27 8 0 25 21 27 25 28 24 25 10 11 25 14 21 23 22 55 24 4 24 22 11 39 22 17 29 , 7 6 1 6 17 43 (22 0 28 22 5 42 20 13 7 20 17 12 20 1 51 20 4 5 | March. d. h. m. 31 5 18 | FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov | 25 9 40 25 22 25 24 11 9 28 28 58 22 12 87 22 1 21 5 19 48 20 14 5 19 2 49 18 15 38 17 4 17 | 25 17 88 26 1 42 24 8 56 23 16 22 21 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| \[\begin{array}{cccccccccccccccccccccccccccccccccccc | 81 5 18 | MAR APRIL MAY JUNE JULY O AUG SEPT OCT NOV | 25 22 25 24 11 9 28 28 58 22 12 87 22 1 21 5 19 48 20 14 5 19 2 49 18 15 38 17 4 17 | 26 1 42 24 8 56 23 16 22 22 1 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| 27 19 59 27 16 47 27 8 48 27 8 0 25 21 27 25 28 24 25 10 11 25 14 21 28 22 55 24 4 24 22 11 39 22 17 29 7 6 1 6 17 43 22 0 28 22 5 42 20 13 7 20 17 12 20 1 51 20 4 5 | | APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov | 24 11 9 28 28 58 22 12 87 22 1 21 5 19 48 20 14 5 19 2 49 18 15 38 17 4 17 | 24 8 56 23 16 22 22 1 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| 27 8 43 27 8 0 25 21 27 25 23 24 25 10 11 25 14 21 23 22 55 24 4 24 22 11 39 22 17 29 7 6 1 6 17 43 (22 0 23 22 5 42 20 13 7 20 17 12 20 1 51 20 4 5 18 14 35 18 14 24 | 1072. | MAY . JUNE . JULY . O AUG SEPT OCT Nov | 28 28 58 22 12 87 22 1 21 5 19 48 20 14 5 19 2 49 18 15 38 17 4 17 | 23 16 22 22 1 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| 25 21 27 25 28 24 25 10 11 25 14 21 28 22 55 24 4 24 22 11 89 22 17 29 7 6 1 6 17 48 (22 0 28 22 5 42 20 18 7 20 17 12 20 1 51 20 4 5 | 1072. | JUNE . JULY . O AUG SEPT OCT Nov | 22 12 87 22 1 21 5 19 48 20 14 5 19 2 49 18 15 33 17 4 17 | 22 1 5 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| 25 10 11 25 14 21 28 22 55 24 4 24 22 11 39 22 17 29 7 6 1 6 17 43 (22 0 28 22 5 42 20 18 7 20 17 12 20 1 51 20 4 5 | 1072. | JULY . O AUG SEPT OCT Nov | 22 1 21 5 19 48 20 14 5 19 2 49 18 15 83 17 4 17 | 21 12 7 6 0 7 20 2 2 18 18 47 18 13 32 |
| 28 22 55 24 4 24 22 11 39 22 17 29 7 6 1 6 17 48 (22 0 28 22 5 42 20 18 7 20 17 12 20 1 51 20 4 5 18 14 35 18 14 24 | 1072. | O Aug Sept Oct Nov | 5 19 48 20 14 5 19 2 49 18 15 33 17 4 17 | 6 0 7 20 2 2 18 18 47 18 13 32 |
| 22 11 39 22 17 29 7 6 1 6 17 43 (22 0 28 22 5 42 20 13 7 20 17 12 20 1 51 20 4 5 18 14 35 18 14 24 | 1072. | Aug Sept Oct Nov | 20 14 5 19 2 49 18 15 33 17 4 17 | 20 2 2 18 18 47 18 13 32 |
| 7 6 1 6 17 43 (22 0 23 22 5 42 20 13 7 20 17 12 20 1 51 20 4 5 18 14 35 18 14 24 | 1072. | SEPT OCT Nov | 19 2 49 18 15 33 17 4 17 | 18 18 47 18 13 32 |
| 22 0 28 22 5 42 20 18 7 20 17 12 20 1 51 20 4 5 18 14 35 18 14 24 | 1072. | Oct Nov | 18 15 33 17 4 17 | 18 13 32 |
| 20 18 7 20 17 12 20 1 51 20 4 5 18 14 35 18 14 24 | 1072. | Nov | 17 4 17 | |
| 20 1 51 20 4 5 18 14 35 18 14 24 | 1072. | 1 | | 17 8 50 |
| 18 14 35 18 14 24 | 1072. | DEC | 16 17 1 | |
| | 1072. | 1 | | 17 3 4 |
| | 1012. | JAN | /15 E 45 | 15 10 50 |
| | E. | O AN. | 15 5 45 30 0 7 | 15 18 58 |
| 17 3 19 17 0 22 | | FEB. | | 29 18 13 |
| 18 16 3 18 10 29 | 31 11 7 | MAR. | 13 18 29 | 14 7 56 |
| 2 10 25 2 23 26 | ' | APRIL | 15 7 18 | 15 18 6 |
| 17 4 47 16 21 26 | | MAY. | 13 19 57 | 14 2 7 |
| 16 17 31 16 9 50 | | | 13 8 41 | 13 8 57 |
| 15 6 15 14 23 58 | | JUNE. | 11 21 25 | 11 15 42 |
| 14 18 59 14 15 36 | | | | 10 23 27 |
| 13 7 43 13 8 3 | | | | 26 10 9 |
| [11 20 27 12 0 27] | | Aug | 9 22 53 | 9 9 15 |
| 26 14 49 26 2 48 | | SEPT. | 8 11 37 | 7 21 56 |
| 11 9 11 11 16 5 | | Ocr | 8 0 21 | 7 13 40 |
| 9 21 55 10 6 26 | | Nov. | 6 13 5 | 6 7 57 |
| 9 10 39 9 19 14 | | DEC | 6 1 49 | 6 3 29 |
| | 1071. | JAN | 4 14 33 | 4 22 36 |
| 7 23 23 8 6 26 | ю. | 0 | | 19 6 17 |
| 6 12 7 6 16 13 | İ | FEB. | 3 3 17 | 3 15 48 |
| 8 0 52 8 0 58 | 31 16 56 | MAR. | 4 16 2 | 5 5 57 |
| 6 13 36 6 9 19 | | APRIL | 3 4 46 | 3 1 7 6 |
| 6 2 20 5 18 9 | | MAY . | 2 17 30 | 3 1 48 |
| 4 15 4 4 4 31 | 1 | 10 | 1 6 14 | 1 9 10 |
| 4 3 48 3 17 7 | 1 | June . | | 30 15 48 |
| 2 16 32 2 8 10 | l | 1 | 4 | 5 13 10 |
| | | | 1 | 9 23 19 |
| , | | | | 8 8 29 |
| | 1 | | | 6 20 4 |
| 130 18 0 30 19 18 | | _ | | 6 10 26 |
| \(\begin{array}{c c c c c c c c c c c c c c c c c c c | | | | |
| \$\begin{array}{c c c c c c c c c c c c c c c c c c c | | | 24 22 20 0 | 5 3 20 4 21 54 |
| | 1 5 16 1 1 13 30 18 0 30 19 18 30 6 44 30 13 12 28 19 28 29 5 42 | 1 5 16 1 1 18 8 80 18 0 30 19 18 8 30 6 44 30 13 12 28 19 28 29 5 42 | Total Tota | JULY. 30 7 42 2 AUG. 28 20 26 2 SEPT. 27 9 10 2 OCT. 26 21 54 2 Nov. 25 10 38 2 |

| Mean Vernal Equinox. | Month. | Menn New Moon. O Full Ecl.) | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|-----------------------------|---------------------------------|----------------------------|---------------|------------------------------------|------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 1067. | | d. h. m. | d. h. m. |
| 1070. c. | - | 23 12 6 | 23 16 44 | F. | JAN. | 20 3 16 | 19 22 42 |
| March. | JAN | 22 0 51 | 22 10 24 | March. | FEB. | 18 16 0 | 18 10 28 |
| d. h. m. | FEB. | 23 13 35 | 24 1 44 | d. h. m. 31 16 11 | MAR. | 20 4 45 | 19 23 5 |
| 81 22 44 | MAR | 22 2 19 | 22 14 18 | 21 10 11 | APRIL | 18 17 29 | 18 12 48 |
| | APRIL | 21 15 3 | 22 0 19 | | | 3 11 51 | 3 17 46 |
| | MAY . | 20 3 47 | 20 8 37 | | O May. | 18 6 13 | 18 3 34 |
| | JUNE. | 19 16 31 | 19 16 13 | | June . | 16 18 57 | 16 18 59 |
| | JULY . | | 18 0 12 | | JULY. | 16 7 41 | 16 10 22 |
| | Aug. | 18 5 15 | 16 9 21 | | 1. | 14 20 25 | 15 1 11 |
| | SEPT | 16 17 59 | | | A.UG. | 13 9 9 | 13 15 3 |
| | Oct | 16 6 43 | 15 20 15 | | SEPT | 12 21 53 | 13 3 56 |
| | Nov. | 14 19 27 | 14 9 13 | | Oct | 11 10 37 | 11 15 59 |
| | 0 | 129 13 49 | 30 0 1 | | Nov. | 10 23 21 | 11 3 11 |
| | DEC | 14 8 11 | 14 0 1 4 | | DEC | 10 20 21 | |
| 1069. | JAN | 12 20 55 | 12 16 50 | 1000 | JAN | 9 12 5 | 9 13 41 |
| B.A. | FEB. | 11 9 39 | 11 10 17 | 1066. | FEB. | 8 0 49 | 7 23 33 |
| 81 4 83 | MAR. | 11 22 23 | 12 3 30 | | | (9 13 33 | 9 9 16 |
| 01 7 00 | APRIL | 10 11 7 | 10 19 27 | 31 22 0 | MAR | 24 7 55 | |
| | MAY . | (9 23 51 | 10 9 26 | | 1 . | 8 2 17 | 7 19 27 |
| | 0 | 24 18 13 | 24 9 4 | | APRIL MAY. | 7 15 1 | 7 6 51 |
| | JUNE . | 8 12 35 | 8 21 17 | | _ | 6 3 45 | |
| | JULY. | 8 1 19 | 8 7 23 | | JUNE . | 5 16 29 | 1 |
| | Aug. | 6 14 3 | 6 16 32 | | JULY. | 4 5 13 | |
| | SEPT. | 5 2 47 | 5 1 37 | l | Aug. | (217 57 | |
| | Oct. | 4 15 31 | 4 11 16 | | SEPT. | 17 12 19 | 1 |
| | | (3 4 15 | 2 21 56 | | 1 0 | (2 6 41 | |
| | Nov. | 17 22 37 | 18 5 45 | H | Oct | 31 19 2 | 1 |
| | DEC. | 2 16 59 | (2 9 45 | 4 | Mar | ا م م د | 17 04 |
| | DEC | | 31 22 45 | | Nov. | 00 00 59 | 30 5 25 |
| 1000 | JAN | ∫ 1 5 43 | 1 | | DEC. | | |
| 1068. | 0 111 | 130 18 27 | 30 12 57 | 1005 | JAN. | 28 9 37 | 7 28 15 45 |
| | FEB | | | 1065. | FEB. | 26 22 21 | |
| 31 10 29 | MAR. | $\int 1 7 12$ | | | 0 | ſ12 16 4 | |
| | | (30 19 50 | 1 | 31 3 48 | 1 | 127 11 | 6 27 8 59 |
| 1 | APRIL | | 1 | . | APRIL | ್ಷ ೧೪ ನ≀ | 1 |
| | 0 | ∫14 3 ² | | 11 | MAY | 05 10 2 | |
| | MAY | | - | li l | JUNE | . 24 1 18 | 1 |
| | June | 4 | | U | JULY | 23 14 | 1 0 |
| | July | | 1 | li . | AUG. | . 22 2 4 | 6 21 20 3 |
| | Aug. | 1 | 1 | 11 | 0 | 5 21 | 8 5 17 11 |
| 1 | SEPT. | | | II. | SEPT. | | |
| | Ocr. | . 20 -0 | 4 23 13 42 | | Ocr. | | |
| 1 | 0 | 772 | 1 | 11 | Nov. | . 18 16 5 | |
| | Nov. | . 22 1 4 | | 11 | Dec. | . 18 5 4 | 2 18 17 24 |
| | DEC. | . 21 14 3 | o i or 11 % | e 11 | 1 | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|---|---|---|--|--|--|
| B.C. 1064. B. March. d. h. m. 31 9 37 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OOT | d. h. m. 16 18 26 15 7 10 2 1 32 16 19 54 15 8 38 14 21 22 13 10 6 12 22 50 {11 11 34 26 5 56 10 0 18 9 13 2 8 1 46 | d. h. m. 17 6 30 15 17 8 2 1 4 17 1 46 15 9 9 14 16 14 13 0 6 12 9 52 10 22 20 26 9 0 9 13 50 9 7 51 8 3 11 | B.C. 1061. F.E. March. d. h. m. 31 3 4 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | d. h. m. 14 9 36 12 22 20 13 11 4 11 28 48 11 12 32 10 1 16 24 19 38 9 14 0 8 2 44 6 15 28 6 4 12 4 16 56 { 4 5 40 | d. h. m. 14 11 13 13 5 28 13 21 56 12 11 51 11 28 7 10 8 14 24 9 50 9 16 18 8 0 4 6 8 44 5 18 50 4 6 48 3 20 48 |
| 1063. A. 81 15 26 | DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 7 14 30 6 3 14 4 15 58 6 4 43 4 17 27 4 6 11 2 18 55 { 2 7 39 81 20 23 30 9 7 28 21 51 28 10 35 26 28 19 26 12 3 | 7 22 14 6 15 25 5 5 49 6 17 16 5 2 8 4 9 22 2 16 0 1 23 7 81 7 51 29 19 6 28 9 23 28 2 33 26 21 39 26 17 8 | 1060. D. 31 8 53 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT | 19 0 2 2 18 24 1 7 8 2 19 58 { 1 8 37 30 21 21 30 10 5 { 14 4 27 28 22 49 28 11 83 27 0 17 25 18 1 25 1 45 | 19 11 7 2 12 24 1 5 17 2 22 81 1 15 8 { 1 6 8 80 19 8 18 17 19 29 6 6 28 15 51 27 1 6 25 10 87 24 20 58 |
| 1062. G. | O Jan Feb | $ \begin{cases} 10 & 6 & 25 \\ 25 & 0 & 47 \\ 23 & 13 & 31 \end{cases} $ | 10 5 20 25 11 20 24 3 0 | | Nov Dec | 23 14 29 23 3 13 | 28 8 7 22 20 25 |
| 81 21 15 | MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | 25 2 16 23 15 0 23 3 44 21 16 28 6 10 50 21 5 12 19 17 56 18 6 40 17 19 24 16 8 8 [15 20 52 30 15 14 | 25 15 36 24 1 23 23 9 12 21 16 7 6 8 32 20 23 17 19 7 38 17 18 4 17 7 4 15 22 45 15 16 30 30 21 18 | 1059. c. 31 14 41 | Jan Feb Mar April May . June . July . Aug Sept Oct Nov Dec | 21 15 57 20 4 41 21 17 26 20 6 10 19 18 54 18 7 38 17 20 22 16 9 6 14 21 50 14 10 84 12 23 18 12 12 2 | 21 9 46 20 0 11 21 15 29 20 7 11 19 22 39 18 18 13 18 2 32 16 14 37 15 1 51 14 12 44 12 28 32 12 10 23 |

| Mean Vernal Equitor. | Month. | Mean New Moon, (C) Full Ecl.)(| True New Moon. Full Eol.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|---|---|---|----------------------------|--|--|---|
| | JAN FFB MAR APRIL JULY . AUG SEPT Oct | Moon. | Monn. | Vernal | | Moon. | Moon. |
| 1057. A.G. 31 2 19 | JAN FER MAR OAPRIL MAY . JUNK . JULY . AUG SEPT O OCT NOV DEC | 29 22 18 28 11 2 28 28 47 {12 18 9 27 12 81 27 1 15 25 18 59 25 2 48 28 15 27 22 4 11 { 6 22 88 { 21 16 55 20 5 89 19 18 28 | 29 22 54 28 8 24 28 17 59 18 6 89 27 4 28 26 16 88 25 6 84 24 22 21 28 15 11 22 8 9 6 11 17 22 0 21 20 15 4 20 4 1 18 15 5 17 0 82 | 1054. D. 81 19 46 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OOT NOV DEC JAN O FEB | 26 13 28 {10 7 50 25 2 12 26 14 57 25 3 41 24 16 25 28 5 9 22 17 58 { 6 12 15 { 21 6 37 19 19 21 19 8 5 17 20 49 17 9 88 { 15 22 17 30 16 89 14 11 1 | 27 8 0 10 2 10 25 15 49 27 1 48 25 9 40 24 16 24 22 28 11 22 7 2 6 17 24 20 17 2 19 5 50 18 21 40 17 15 58 17 11 25 16 6 21 80 14 45 14 28 18 |
| 31 H S | FRB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. | . 18 8 86 . 16 21 20 . 16 10 4 . 14 22 48 . 14 11 82 . 18 0 16 . 11 18 0 . 11 1 44 . 9 14 28 | 17 0 32 18 8 52 10 16 48 16 1 19 14 11 28 14 0 1 12 15 11 11 8 88 11 8 5 9 21 21 9 14 7 | 81 184 | MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | 8 4 9 7 16 58 6 5 87 | 25 19 56 9 7 12 7 14 39 7 4 25 5 18 47 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|--|---|--|---|
| B.C. 1052. A. March. d. h. m. 31 7 23 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV O DEC JAN FEB | d. h. m. 4 7 5 2 19 49 4 8 34 2 21 18 { 2 10 2 31 22 46 30 11 30 30 0 14 28 12 58 27 1 42 26 14 26 25 3 10 { 9 21 32 24 15 54 28 4 38 21 17 22 | d. h. m. 4 5 43 3 0 11 4 17 38 3 8 43 2 21 17 { 1 7 28 30 16 2 30 0 0 28 8 22 26 17 51 26 4 56 24 17 51 10 8 35 24 8 31 23 0 38 21 17 38 | B.C. 1049. E.D. March. d. h. m. 31 0 50 | JAN FEB MAR APRIL O MAY . JULY . AUG SEPT OCT NOV DEC JAN FEB MAR | d. h. m. { 1 22 16 | d. h. m. 1 20 15 31 7 4 29 18 14 30 6 15 28 19 30 14 1 10 28 10 2 27 1 30 26 17 14 25 8 35 23 23 4 23 12 31 22 0 50 21 12 5 19 22 19 18 7 47 19 16 59 |
| 31 13 12 | MAR APRIL MAY. O JUNE. JULY. AUG SEPT OCT NOV. | 17 21 47 | 28 10 21 22 2 8 21 16 10 4 16 17 20 4 18 19 14 50 18 0 29 16 10 2 15 20 1 14 6 50 29 13 54 13 18 31 | | O APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov DEc | $ \begin{cases} 8 & 15 & 89 \\ 18 & 10 & 1 \\ 17 & 22 & 45 \\ 16 & 11 & 29 \\ 16 & 0 & 13 \\ 14 & 12 & 57 \\ 13 & 1 & 41 \\ 27 & 20 & 3 \\ 12 & 14 & 25 \\ 11 & 3 & 9 \\ 10 & 15 & 58 \\ \end{cases} $ | 4 4 19 18 2 40 17 18 41 16 2 89 15 17 38 14 10 18 13 3 29 27 9 52 12 20 27 11 12 11 11 2 8 |
| 1050. F. 31 19 1 | JAN. FEB. MAR. APRIL MAY O JULY AUG. SEPT. OCT. Nov. O DEC. | 11 3 39 10 16 23 25 10 45 9 5 7 8 17 51 7 6 35 | 25 7 58 9 9 20 8 23 28 7 12 24 6 0 19 5 11 34 3 22 34 18 13 30 | 1047. B. 31 12 28 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 8 0 11 9 8 48 24 7 51 7 16 36 7 0 38 5 9 39 4 20 58 8 10 47 2 8 17 17 1 37 1 21 34 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|---|---|---|---|--|--|---|
| B.C. 1046. A. March. d. h. m. 81 18 16 | JAN FEB O MAR APRIL MAY . JULY . AUG O SEPT OCT Nov | d. h. m. 28 2 9 26 14 58 {13 9 15 28 8 88 26 16 22 26 5 6 24 17 50 24 6 84 22 10 18 { 6 18 40 21 8 2 20 20 46 19 9 89 18 22 14 | d. h. m. 28 14 50 27 1 18 18 8 6 28 9 34 26 16 42 25 23 86 24 7 24 28 17 12 22 2 5 47 6 17 9 20 21 28 20 15 41 19 11 11 10 6 17 | B.C. 1043. v. March. d. h. m. 81 11 48 | O JAN FEB | d. h. m. { 9 22 57 24 17 19 23 6 3 24 18 48 23 7 32 22 20 16 21 9 0 { 6 3 22 20 21 44 19 10 28 17 28 12 17 11 56 16 0 40 { 15 18 24 | d. h. m. 10 6 2 24 18 48 23 12 41 25 4 57 23 18 47 23 6 9 21 15 32 5 16 37 20 23 52 19 8 8 17 17 9 17 3 31 15 15 32 15 5 14 |
| 1045. G.F. 81 0 5 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 17 10 58 15 28 42 16 12 27 15 1 11 14 18 55 18 2 89 12 15 28 11 4 7 9 16 51 9 5 85 7 18 19 7 7 8 | 17 28 27 16 18 48 17 0 59 15 9 42 14 16 49 12 28 27 12 6 42 10 15 86 9 8 1 8 17 26 7 10 87 7 5 88 | 1042. c. 81 17 82 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | 14 2 8 12 14 52 14 3 87 12 16 21 12 5 5 {10 17 49 25 12 11 10 6 88 8 19 17 7 8 1 6 20 45 5 9 29 4 22 18 | 18 20 27 12 12 46 14 5 31 12 21 45 12 12 41 11 1 58 25 0 31 10 18 21 8 28 36 7 9 21 6 19 17 5 5 47 4 17 0 |
| 1044. E. C1 5 54 | JAN O FER MAR APRIL MAY . JUNE . JULY O AUG SEPT OCT NOV DEG | $ \begin{cases} 5 & 19 & 47 \\ 20 & 14 & 9 \\ 4 & 8 & 81 \\ 5 & 21 & 15 \\ 4 & 9 & 59 \\ 8 & 22 & 48 \\ 2 & 11 & 27 \\ 2 & 0 & 11 \\ 16 & 18 & 83 \\ 81 & 12 & 55 \\ 80 & 1 & 89 \\ 28 & 14 & 28 \\ 28 & 8 & 7 \\ 26 & 15 & 51 \\ 26 & 4 & 85 \end{cases} $ | 6 0 56 20 18 57 4 18 57 6 10 25 4 22 55 4 8 40 2 16 84 1 28 40 16 15 11 81 7 5 29 15 45 28 2 28 27 15 30 26 7 2 26 0 80 | 1041. B.A. 80 28 21 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | $\begin{array}{c} 3 \ 10 \ 57 \\ 1 \ 28 \ 41 \\ 2 \ 12 \ 25 \\ 1 \ 1 \ 9 \\ 30 \ 18 \ 53 \\ 30 \ 2 \ 87 \\ 28 \ 15 \ 21 \\ 28 \ 4 \ 5 \\ 26 \ 16 \ 49 \\ 25 \ 5 \ 33 \\ 24 \ 18 \ 17 \\ 23 \ 7 \ 1 \\ 22 \ 19 \ 45 \\ \end{array}$ | 3 4 59 1 17 49 2 7 37 31 22 21 30 13 42 30 5 6 28 19 54 28 9 42 26 22 22 25 10 12 24 21 30 28 8 30 22 19 17 |

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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|---|-----------------------------------|--|------------|---------------------------------|------------------------------------|
| B.C. 1040. G. | Jan | d. h. m. | d. h. m. | B.C. 1037. | Jan | d. h. m. 18 23 39 | d. h. m. 19 12 48 |
| March. | FEB | 19 21 13 | 19 16 33 | D.C. | FEB. | 17 12 23 | 18 0 24 |
| d. h. m. 31 5 9 | MAR. | 21 9 58 | 21 3 48 | March. | | (3 6 45 | 3 3 44 |
| 01 0 0 | APRIL | 19 22 42 | 19 16 9 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | O Mar | 18 1 8 | 18 9 33 |
| | APRIL O | (4 17 4 | 5 1 10 | 30 44 55 | APRIL | 16 13 52 | 16 17 3 |
| | MAY. | 19 11 26 | 19 5 52 | | MAY. | 16 2 36 | 15 23 50 |
| | June . | 18 0 10 | 17 20 56 | | JUNE. | 14 15 20 | 14 7 0 |
| | July. | 17.12 54 | 17 12 44 | | JULY. | 14 4 4 | 13 15 41 |
| | Aug. | 16 1 38 | 16 4 37 | | Aug | (12 16 48 | 12 2 52 |
| | SEPT. | 14 14 22 | 14 19 53 | | 0 | 27 11 10 | 27 15 50 |
| | Oct. | (14 3 6 | 14 10 8 | | SEPT. | 11 5 32 | 10 17 5 |
| | 0 | 28 21 28 | 28 10 9 | | Oct. | 10 18 16 | 10 10 13 |
| | Nov. | 12 15 50 | 12 23 12 | 1 | Nov. | 9 7 0 | 9 5 20 |
| | DEC | 12 4 34 | 12 11 2 | | DEC | 8 19 44 | 9 0 52 |
| 1000 | т | 10 17 10 | 10.01.41 | 1036. | JAN | 7 3 28 | 7 19 10 |
| 1039. F. | JAN Feb | 10 17 18 | 10 21 41 | в. | FEB | 5 21 12 | 6 10 53 |
| 31 10 58 | MAR. | 9 6 2 | 9 7 18 | | 0 | 20 15 34 | 20 10 1 |
| 01 10 00 | APRIL | 10 18 46 | 10 16 18 | 31 4 24 | MAR | 7 9 56 | 7 23 33 |
| | O | $\begin{cases} 9 & 7 & 30 \\ 24 & 1 & 52 \end{cases}$ | 9 1 23 | | APRIL | 5 22 40 | 6 9 21 |
| | MAY . | (| 24 13 44 | | MAY . | 5 11 24 | 5 17 6 |
| , | JUNE . | 0 20 11 | 8 1 1 26 6 23 16 | | JUNE . | 4 0 8 | 3 23 51 |
| | JULY . | | 6 13 14 | | JULY. | 3 12 52 | 3 6 42 |
| | Aug. | | 5 5 18 | | | 2 1 36 | 1 14 45 |
| | SEPT. | 0 10 10 | 3 22 29 | | Aug. O | 16 19 58 | 17 0.44 |
| | Oct. | 3 11 54 | 3 15 59 | | | 31 14 20 | 31 0 55 |
| | 0 | 18 6 16 | 17 19 51 | | SEPT. | 30 3 4 | 29 13 53 |
| | Nov. | | 2 8 39 | | Oct. | 29 15 48 | 29 5 47 |
| , | DEC. | ∫ 1 13 22 | 1 23 42 | | Nov Dec | 28 4 32 27 17 16 | 27 23 59 27 19 15 |
| | | (31 2 6 | 31 12 41 | 1035. | Jan | 26 6 0 | 26 13 59 |
| 1038. | JAN. | . 29 14 50 | 29 23 34 | A. | 0 | 10 0 22 | 9 23 4 |
| E. | FEB. | | 28 8 42 | | FEB | 124 18 44 | 25 6 44 |
| 31 16 47 | 1 | | 29 16 37 | 31 10 13 | MAR | 26 7 29 | 26 20 40 |
| | APRIL | | 28 0 12 | | APRIL | 24 20 13 | 25 7 42 |
| | Max | | 27 8 28 | | MAY . | 24 8 57 | 24 16 27 |
| | JUNE | | 25 18 28 | | JUNE . | 22 21 41 | 22 23 54 |
| | JULY | | 25 7 1 | | JULY . | 22 10 25 | 22 7 10 |
| | Aug. | 1 | 23 22 22 | | 0 | 6 4 47 | |
| | SEPT. | | 22 16 3 | | Aug | (20 23 9 | |
| | Oct. | . 22 9 27 | 22 10 55 | | SEPT | 19 11 53 | |
| | Nov. | | | | Oct | 19 0 37 | 18 12 5 |
| | DEC. | . 20 10 55 | | | Nov | 17 13 21 | |
| 1 | | | | | DEC | 17 2 5 | 16 19 3 |

| | | | | | | | |
|----------------------------|--------|------------------------------|------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| B.C. 1034. | | d. h. m. | d. h. m. | B.C. 1031. | | d. h. m. | d. h. m. |
| March. | JAN | 15 14 4 9 | 15 13 29 | C. | JAN | 12 5 59 | 12 4 55 |
| d. h. m. | FEB | 14 3 33 | 14 7 32 | March. d . h . m . | FEB | 10 18 43 | 10 15 16 |
| 31 16 2 | MAR | 15 16 18 | 16 0 35 | 31 9 29 | MAR | 12 7 28 | 12 1 53 |
| | APRIL | 14 5 2 | 14 15 37 | | APRIL | 10 20 12 | 10 13 21 |
| | MAY. | 13 17 46 | 14 4 13 | | MAY . | (10 8 56 | 10 2 10 |
| | June . | 12 6 80 | 12 14 37 | | 0 | (25 3 18 | 25 8 33 |
| | JULY. | 11 19 14 | 11 23 32 | | JUNE . | 8 21 40 | 8 16 31 |
| | A.ug | 10 7 58 | 10 7 55 | | JULY . | 8 10 24 | 8 8 5 |
| | SEPT. | 8 20 42 | 8 16 41 | | Aug | 6 23 8 | 7 0 14 |
| | Ocr. | 8 9 26 | 8 2 29 | | SEPT | 5 11 52 | 5 16 9 |
| | Nov. | 6 22 10 | 6 13 43 | | Oct | 5 0 36 | 5 7 15 |
| | DEC. | 6 10 54 | 6 2 29 | | Nov. | .3 13 23 | 3 21 8 |
| | DEC | 21 5 16 | 21 17 6 | | DEC. | 3 2 4 | 3 9 43 |
| | | (21 3 10 | 21 1. 0 | | DEC | 5 2 4 | 0 9 40 |
| 1033. | JAN. | 4 23 38 | 4 16 47 | | | (1 14 48 | 1 20 55 |
| F.E. | FEB. | 3 12 22 | 3 8 21 | 1030. | JAN | 31 3 32 | 81 6 50 |
| 30 21 51 | | 4 1 6 | 4 0 42 | В. | Trum. | (31 3 32 | 51 0 50 |
| 30 21 31 | MAR. | 2 13 50 | 2 17 5 | | FEB | (1 16 16 | 1 15 52 |
| | APRIL | (2 2 34 | 2 8 41 | 31 15 17 | MAR | 31 5 0 | 31 0 35 |
| | MAY . | | 31 22 51 | | | 29 17 44 | 29 9 49 |
| | | (81 15 18 | | | APRIL | | 28 20 31 |
| | _ 0 | 15 9 40 | 14 23 30 | | MAY . | 29 6 28 | 27 9 20 |
| | JUNE . | 30 4 2 | 30 11 18 | | JUNE . | | 27 0 27 |
| | July . | 29 16 46 | 29 22 20 | | JULY . | 27 7 56 | |
| | A.ug | 28 5 30 | 28 8 31 | | Aug | 25 20 40 | 25 17 20 |
| | SEPT | 26 18 14 | 26 18 32 | | SEPT | 24 9 24 | 24 11 5 |
| | Ост | 26 6 58 | 26 4 53 | | 0 | 9 3 46 | 8 18 26 |
| | Nov | 24 19 42 | 24 15 46 | | Ocr | 23 22 8 | 24 4 32 |
| | _ 0 | 9 14 4 | | | Nov. | 22 10 52 | 22 20 40 |
| | DEC | 124 8 23 | 24 3 15 | | DEC | 21 23 36 | 22 10 46 |
| 1032. | JAN | 22 21 10 | 22 15 24 | 1029. | JAN | 20 12 520 | 20 22 39 |
| D. | FEB | 21 9 54 | 21 4 24 | A.G. | FEB | 19 1 4 | 19 8 26 |
| 81 8 40 | MAR. | 22 22 39 | 22 18 24 | 30 21 26 | MAR. | 19 13 49 | 19 16 42 |
| | APRIL | 21 11 23 | 21 9 16 | | 0 | 3 8 11 | 3 14 39 |
| | MAY . | 21 0 7 | 21 0 39 | | APRIL | 119 2 33 | 18 0 10 |
| 1 | 0 | (4 18 29 | 4 15 21 | | May . | 17 15 17 | 17 9 49 |
| | JUNE . | 19 12 51 | | | JUNE . | 16 4 1 | 15 16 .45 |
| } | JULY . | 19 1 35 | 19 6 25 | | JULY. | 15 16 45 | 15 3 57 |
| 1 | Aug | 17 14 19 | 17 19 56 | | AUG | 14 5 29 | 13 17 58 |
| | SEPT | 16 3 3 | 16 8 27 | | SEPT | j12 18 18 | 12 10 42 |
| | Ост. | 15 15 47 | 15 20 13 | | 0 | 27 12 35 | 27 10 10 |
| 1 | Nov. | (14 4 31 | 14 7 31 | | Oct | 12 6 57 | 12 5 18 |
| | 0 | 28 22 58 | 1 | | Nov | 10 19 41 | 11 0 23 |
| | DEC | 13 17 15 | 13 18 23 | | DEC | 10 8 25 | 10 18 23 |
| | | | | | | | |
| L | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|--|---|---|---|---|--|
| B.C. 1028. F. March. d. h. m. 81 2 55 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O Oct Nov | d. h. m. 8 21 9 7 9 58 8 22 38 23 17 0 7 11 22 7 0 6 5 12 50 5 1 34 8 14 18 2 3 2 16 21 24 1 15 46 81 4 30 29 17 14 29 5 58 | d. h. m. 9 10 6 7 28 0 9 9 11 23 15 4 7 17 17 7 0 12 5 7 1 4 14 49 8 0 40 1 13 15 17 1 25 1 5 14 30 23 34 29 19 9 29 14 15 | B. C. 1025. C. B. March. d. h. m. 30 20 22 | Jan O FEB MAR APRIL MAY . JUNE . JULY O AUG SEFT OCT NOV DEC | d. h. m. \[\begin{array}{cccccccccccccccccccccccccccccccccccc | d. h. ni. 6 8 25 21 14 40 5 2 18 5 19 45 4 11 48 4 1 37 2 18 9 1 22 52 15 28 31 31 7 36 29 16 18 28 1 48 27 12 19 26 0 16 25 18 89 |
| 1027. E. 31 8 44 | JAN FEE MAR APRIL MAY . JUNE . JULY . AUG . SEPT OCT NOV DEC | 27 18 42 26 7 26 27 20 10 26 8 54 25 21 38 24 10 22 28 23 6 22 11 50 21 0 34 20 18 18 19 2 2 18 14 46 | 28 7 19 26 21 28 28 8 32 26 17 9 26 0 15 24 6 58 23 14 21 21 23 28 20 11 5 20 1 35 18 18 44 18 13 33 | 1024, A. 31 2 10 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | \$\begin{cases} 9 15 29 \\ 24 9 51 \\ 22 22 85 \\ 24 11 20 \\ 23 0 4 \\ 22 12 48 \\ 21 1 82 \\ 5 19 54 \\ 20 14 16 \\ 19 3 0 \\ 17 15 44 \\ 17 4 28 \\ 15 17 12 \end{cases}\$ | 10 4 6 24 4 22 22 20 7 24 12 22 23 4 19 22 19 16 21 8 42 5 7 45 20 20 88 19 7 25 17 17 88 17 4 8 15 14 44 |
| 1026. D. 81 14 88 | JAN. O FEB. MAR. APRIL MAY JUNE O AUG. SEPT. Nov. DEC. | 17 4 59 15 17 43 15 6 27 13 19 11 13 7 55 28 2 17 11 20 39 10 9 23 9 22 7 8 10 51 | 31 22 25 16 2 23 17 17 42 16 6 7 15 15 55 18 23 57 18 7 19 27 21 56 11 15 2 10 0 1 9 10 53 8 0 1 | 1023. g. 81 7 59 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT. , NOV DEC | 15 5 56 13 18 40 12 7 24 13 20 9 12 8 53 11 21 87 10 10 21 9 23 5 8 11 49 7 0 33 6 18 17 5 2 1 4 14 45 | 15 1 51 13 13 28 12 1 44 13 14 56 12 5 8 11 20 11 10 11 34 10 2 39 8 16 58 7 6 15 6 18 40 5 6 22 4 17 29 |

| | | | ERUSALEM (| O1V1E 11ME | • | | |
|----------------------------|-------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|-----------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ed.) |
| B.C. 1022. | | d. h. m. | d. h. m. | B.C. 1019. | | d. h. m. | d. h. m. |
| F. March. | Jan | 3 3 29 | 3 4 6 | B. March. | JAN | 29 7 23 | 29 21 0 |
| d. h. m. | FEB | 1 16 13 | 1 14 17 | d. h. m. | FEB | 27 20 7 | 28 8 23 |
| 31 13 48 | MAR | 3 4 57 | 3 0 26 | 31 7 15 | MAR | 29 8 51 | 29 17 18 |
| | APRIL | 1 17 41 | § 1 11 6 | | APRIL | 27 21 35 | 28 0 35 |
| | | 1 6 25 | 130 22 58 | | May. | 27 10 19 | 27 7 15 |
| | MAYO | 316 0 47 | 16 8 30 | | JUNE . | 25 23 3 | 25 14 24 |
| | | (30 19 9 | 30 12 25 | | JULY. | 25 11 47 | 24 23 10 |
| | June. | 29 7 53 | 29 3 27 | | Aug | 24 0 31 | 23 10 28 |
| | July. | 28 20 37 | 28 19 33 | | 0 | 5 7 18 53 | 7 23 52 |
| | Aug | 27 9 21 | 27 11 54 | | SEPT | (22 13 15 | 22 0 50 |
| • | SEPT | 25 22 5 | 26 3 46 | | 0ст | 22 1 59 | 21 18 6 |
| | Ocr | 25 10 49 | 25 18 34 | | Nov | 20 14 43 | 20 13 17 |
| | 0 | 5 9 5 11 | 8 18 30 | | DEC | 20 3 27 | 20 8 49 |
| | Nov | (23 23 33 | 24 7 58 | | _ | 40 40 44 | 10 0 1 |
| | DEC | 23 12 17 | 23 19 53 | 1018. | JAN | 18 16 11 | 19 3 1 |
| 1001 | _ | 00 1 1 | 00 0 10 | Α. | FEB | 17 4 55 | 17 18 36 |
| 1021. E.D. | JAN | 22 1 1 | 22 6 18 | | .0 | 3 23 17 | 3 17 44 |
| | FEB | 20 13 45 | 20 15 32 | 81 13 8 | MAR. | 18 17 40 | 19 7 7 |
| 30 19 37 | MAR. | 21 2 30 | 21 0 6 | | APRIL | 17 6 24 | 17 16 50 |
| | APRIL | 19 15 14 | 19 8 45 | | MAY. | 16 1.9 8 | 17 0 32 |
| | MAY. | 4 9 36 119 3 58 | 4 20 44 | | JUNE . | 15 7 52 14 20 36 | 15 7 21 |
| | JUNE. | 17 16 42 | 18 18 26 17 6 2 | | JULY. | (13 9 20 | 14 14 20 12 22 36 |
| | JULY. | 17 15 42 | 16 20 3 | | Aug | 28 3 42 | 28 8 12 |
| | | 15 18 10 | 15 12 14 | | SEPT | 11 22 4 | 11 9 0 |
| | Aug Sept | 14 6 54 | 14 5 54 | | Ocr | 11 10 48 | 10 22 6 |
| | Ocr | (13 19 38 | 18 28 58 | | Nov. | 9 23 32 | 9 13 58 |
| | 0 | 28 14 0 | 23 4 35 | | DEC. | 9 12 16 | 9 8 2 |
| | Nov. | 12 8 22 | 12 16 59 | | DEC | 0 12 10 | 0 0 1 |
| | DEC. | 11 21 6 | 12 8 16 | 1017. | JAN | 8 1 0 | 8 3 2 |
| | 2.0. | 11 22 0 | 12 0 10 | G.F. | FEB | 6 13 44 | 6 21 28 |
| 1020. | JAN | 10 9 50 | 10 21 14 | | 0 | 21 8 6 | 21 7 16 |
| c. | FEB | 8 22 34 | 9 7 55 | 30 18 52 | MAR | 7 2 29 | 7 14 1 |
| 31 1 26 | MAR. | 10 11 19 | 10 16 44 | | APRIL | 5 15 13 | 6 3 49 |
| | APRIL | 9 0 3 | 9 0 19 | | MAY . | 5 3 57 | 5 14 51 |
| | MAY. | 8 12 47 | 8 7 36 | | June . | 3 16 41 | 3 23 44 |
| | JUNE . | 7 1 31 | 6 15 40 | | JULY . | 3 5 25 | 3 7 25 |
| | JULY. | 6 14 15 | 6 1 35 | | | c 1 18 9 | 1 15 0 |
| | Aug | 5 2 59 | 4 14 11 | | Avg. O | 16 12 31 | 16 9 51 |
| | SEPT | 3 15 43 | 3 5 43 | | | (31 6 53 | 30 23 26 |
| | Ocr | 3 4 27 | 2 23 40 | | SEPT | 29 19 37 | 29 9 26 |
| | Nov | 1 17 11 | 1 18 50 | | Ост | 29 8 21 | 28 21 28 |
| | | (1 5 55 | 1 13 40 | | Nov | 27 21 5 | 27 11 40 |
| | DEC | 30 18 39 | 81 6 42 | | DEC | 27 9 49 | 27 3 48 |
| | | | | | | | |

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|----------------------------|----------|------------------------------------|-----------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Montb. | Mean New Moon. (O Full Ecl.) | True New Moon, (O Full Ecl.) |
| B.C. 1016. | | d. h. m. | d. h. m. | B.C. 1013. | | d. h. m. | d. h. m. |
| E. | JAN | 25 22 33 | 25 21 8 | B.A. | JAN | 23 13 43 | 23 13 30 |
| March. d. h. m. | FEB | 24 11 17 | 24 14 44 | March. | FEB | 22 2 27 | 21 23 23 |
| 31 0 41 | MAR | 26 0 1 | 26 7 26 | 30 18 8 | MAR | 22 15 11 | 22 9 25 |
| | APRIL | 24 12 45 | 24 22 23 | | APRIL | 21 3 55 | 20 20 22 |
| | MAY. | 24 1 29 | 24 11 6 | | MAY . | 20 16 39 | 20 8 49 |
| 1 | JUNE. | 22 14 13 | 22 21 47 | | 0 | § 4 11 1 | 4 15 55 |
| | JULY. | 22 2 57 | 22 7 5 | | June . | 19 5 23 | 18 23 4 |
| | Aug. | 20 15 41 | 20 15 57 | | JULY. | 18 18 7 | 18 14 46 |
| 1 | SEPT. | 19 4 25 | 19 1 8 | | Aug | 17 6 51 | 17 7 18 |
| | Ocr | 18 17 9 | 18 11 15 | | SEPT | 15 19 35 | 15 23 48 |
| | Nov. | 17 5 53 | 16 22 32 | | Ост | 15 8 19 | 15 15 28 |
| | Dec. | (16 18 37 | 16 11 6 | | Nov. | 13 21 3 | 14 5 47 |
| | 0 | \\(\frac{1}{31} 12 59 | | | DEC | 13 9 47 | 13 18 30 |
| 1015. | JAN | \{ | 1 1 30 | 1012. | Jan | 11 22 31 | 12 5 36 |
| D. | | 15 7 21 | 15 0 57 | G. | FEB | 10 11 15 | 10 15 13 |
| | FEB | 13 20 5 | 13 15 55 | 30 23 56 | MAR | 12 0 0 | 11 28 51 |
| 81 6 80 | MAR | 15 8 50 | 15 7 44 | | APRIL | 10 12 44 | 10 8 6 |
| | APRIL | 18 21 34 | 13 23 43 | | MAY . | 10 1 28 | 9 16 59 |
| | MAY. | 13 10 18 | 13 15 13 | | June. | 8 14 12 | 8 8 25 |
| | JUNE. | 11 23 2 | 12 5 32 | | JULY. | 8 2 56 | 7 16 10 |
| , | -0 | 26 17 24 | 26 6 49 | | Aug | 6 15 40 | 6 7 22 |
| | July. | 11 11 46 | 11 18 23 | | SEPT | 5 4 24 | 5 0 36 |
| 1. | Aug. | 10 0 30 | 10 5 56 | | Ocr | \ \ 4 17 8 | 4 18 48 |
| | SEPT. | 8 13 14 8 1 58 | 8 16 41 | | 0 | 19 11 80 | 19 3 9 |
| | Oct. | 1 | 8 3 11 | | Nov | 8 5 52 | 8 12 42 |
| | Nov. | 6 14 42 | 6 13 49 | | DEC | 2 18 36 | 3 5 8 |
| | DEC. | 6 3 26 | 6 0 43 | | | | |
| | 0 | (20 21 48 | 21 6 3 | 1011. | JAN | § 1 7 20 | 1 19 19 |
| 1014. | JAN | 4 16 10 | 4 11 55 | F. | V AM. | 180 20 4 | 31 7 3 |
| c. | FEB | 3 4 54 | 2 23 35 | | FEB | | |
| 31 12 19 | MAR | 4 17 39 | 4 12 0 | 31 5 45 | MAR | ∫ 1 8 48 | 1 16 34 |
| | APRIL | 3 6 23 | 3 1 23 | 51 5 10 | | 130 21 32 | 31 0 29 |
| | MAY. | 2 19 7 | 2 15 51 | | . 0 | 14 15 54 | 14 21 17 |
| | | 1 7 51 | 1 7 5 | | APRIL | 29 10 16 | 29 7 39 |
| | June C | . 11 | 15 22 49 | | MAY . | 28 23 0 | 28 15 5 |
| | | 30 20 35 | 30 22 31 | 1 | June . | 27 11 44 | 26 23 55 |
| | JULY. | 1 | 30 13 28 | | Junx. | 27 0 28 | 26 11 7 |
| | Aug | | 29 3 35 | | Aug | 25 13 12 | 25 1 16 |
| | SEPT | | 27 16 42 | | SEPT | 24 1 56 | 23 18 13 |
| | Ocr. | 26 23 31 | 27 4 57 | | 0 | 8 20 18 | 8 18 51 |
| | Nov. | 25 12 15 | 25 16 29 | | Oct | 23 14 40 | 28 18 6 |
| | 0 | 10 6 37 | | | Nov. | 22 3 24 | 22 8 25 |
| | DEC. | . 125 0 59 | 25 8 17 | | DEC | 21 16 8 | 22 2 33 |
| | <u> </u> | | 1 | 11 | | 41 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. |
|---|--|--|---|---|---|--|--|
| B.C. 1010. E. March. d. h. m. 31 11 34 | JAN FEB MAR OAPRIL MAY . JULY . AUG SEPT OCT Nov DEC | d. h. m. 20 4 52 18 17 86 20 6 21 { 4 0 43 18 19 5 18 7 49 16 20 33 16 9 17 14 22 1 { 13 10 45 28 5 7 12 23 29 11 12 13 11 0 57 | d. h. m. 20 18 16 19 7 0 20 16 59 3 21 53 19 0 52 18 7 39 16 14 25 15 22 17 14 8 18 12 21 11 28 9 48 11 7 32 11 3 6 | B.C. 1007. A. March. d. h. m. 31 5 0 | JAN O FEB MAR APRIL MAY . JUNE . O AUG SEPT OCT Nov DEC | d. h. m. {16 20 2 31 14 24 15 8 46 16 21 31 15 10 15 14 22 59 13 11 43 {18 0 27. 27 18 49 11 13 11 10 1 55 9 14 39 8 3 23 7 16 7 | d. h. m. 16 16 16 31 23 6 15 9 37 17 2 42 15 18 32 15 8 23 13 20 10 13 6 16 27 6 34 11 15 28 10 0 39 9 10 25 7 21 1 7 9 3 |
| 1009. D.C. 30 17 28 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 9 13 41 8 2 25 8 15 10 7 3 54 6 16 38 5 5 22 4 18 6 3 6 50 1 19 34 { 1 8 18 { 30 21 2 29 9 46 28 22 30 | 9 22 5 8 15 2 9 5 2 7 15 59 7 0 84 5 7 41 4 14 38 2 22 10 {1 7 38 30 19 20 30 9 53 29 2 53 28 21 27 | 1006. c. 81 10 49 | JAN O FEB MAR APRIL MAY . JUNE . JULY O AUG SEPT OCT Nov DEC | $ \begin{cases} 6 & 4 & 51 \\ 20 & 28 & 18 \\ 4 & 17 & 35 \\ 6 & 6 & 20 \\ 4 & 19 & 4 \\ 4 & 7 & 48 \\ 2 & 20 & 82 \\ 2 & 9 & 16 \\ 17 & 3 & 83 \\ 31 & 22 & 0 \\ 30 & 10 & 44 \\ 28 & 23 & 23 \\ 28 & 12 & 12 \\ 27 & 0 & 56 \\ 26 & 13 & 40 \\ \end{cases} $ | 5 22 4 21 12 26 4 12 18 6 3 22 4 19 6 4 10 49 3 1 50 2 15 35 16 15 8 1 4 1 30 15 22 29 2 12 28 12 55 26 23 42 26 10 41 |
| BO 28 12 | O FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 11 5 86 25 28 58 27 12 42 26 1 26 25 14 10 24 2 54 28 15 88 22 4 22 20 17 6 20 5 50 18 18 84 18 7 18 | 11 6 48 26 9 40 28 0 48 26 13 10 25 23 6 24 7 21 23 15 1 21 23 7 20 8 25 19 19 30 18 8 85 17 28 40 | 1005. F.E. 30 16 38 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 25 2 24 23 15 8 24 3 52 22 16 36 22 5 20 20 18 4 20 6 48 18 19 32 17 8 16 16 21 0 15 9 44 14 22 28 | 24 21 52 23 9 34 28 22 8 22 11 50 22 2 33 20 18 3 20 9 30 19 0 20 17 14 15 17 3 12 15 15 12 15 2 24 |

| B.C. 1004. Darker | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Fall Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| March. d. h. m. Feb. 11 23 56 11 22 34 A. m. Solution 12 12 12 11 18 22 Max. 10 22 27 Max. 11 14 9 11 5 47 C. 12 6 8 81 26 15 49 June. 10 2 53 9 19 2 July. 10 2 53 9 19 2 July. 10 2 53 9 19 2 Cot. 10 2 53 19 2 55 Dec. 10 2 1 1 1 2 1 2 5 1 1 1 2 2 3 4 Aprill 10 3 5 1 1 0 16 18 Aprill 10 2 6 8 1 26 15 49 Aug. 10 2 6 8 1 26 15 49 Aug. 10 2 6 8 1 2 2 8 4 5 1 1 4 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| A | | Jan | 13 11 12 | 13 12 47 | | JAN | 11 2 23 | 11 14 50 |
| No. No. No. No. No. No. No. No. No. | | FEB | 11 23 56 | 11 22 34 | | FEB | 9 15 7 | 10 5 1 |
| May | | MAR | 13 12 41 | 13 8 13 | | MAR | 10 3 51 | 10 16 13 |
| O 126 8 81 26 15 49 June | | APRIL | 12 1 25 | 11 18 22 | | APRIL | 8 16 35 | 9 0 56 |
| JULY . 9 15 87 9 10 5 AUG . 8 4 21 8 2 28 SEFT . 6 17 5 6 19 20 Oct . 6 5 49 6 11 46 Nov . 6 5 49 6 11 46 Nov . 6 5 49 6 11 46 Nov . 6 5 49 6 11 46 Nov . 6 5 49 6 11 46 Nov . 6 5 49 6 11 46 Nov . 6 5 49 6 11 46 Nov . 7 17 4 16 44 1003. G. Feb . 1 8 45 114 49 81 4 16 MAR 2 21 80 2 28 41 APRIL 6 15 17 20 16 8 46 MAY . 80 11 42 80 1 27 JULY . 28 18 10 28 2 56 AUG . 27 1 54 26 19 23 Seft . 25 4 28 25 14 51 JULY . 28 18 10 28 2 56 AUG . 27 1 54 26 19 23 Seft . 25 4 28 16 6 AUG . 27 1 54 26 19 23 Seft . 25 8 30 16 4 1002. B. Feb . 20 6 18 20 16 9 81 10 5 MAR . 21 19 2 22 0 87 APRIL 70 746 20 758 OC . 18 9 14 17 22 58 JULY . 17 21 58 17 8 48 AUG . 16 10 42 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 19 18 18 9 14 17 22 58 JULY . 18 9 14 17 22 58 JULY . 19 18 18 9 14 17 22 58 JULY . 19 20 30 19 14 56 JUNE . 18 9 14 17 22 58 JULY . 19 18 18 9 14 17 22 58 JULY . 19 20 30 19 14 56 JUNE . 18 9 14 17 22 58 JULY . 19 20 30 19 14 56 JUNE . 18 9 14 17 22 58 JULY . 17 21 58 17 8 48 AUG . 16 10 42 15 21 30 SEFT . 14 28 28 14 18 18 Oct . 14 12 10 14 7 24 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 54 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 18 0 64 18 249 Nov . 9 16 4 9 6 7 | | MAY . | (11 14 9 | 11 5 47 | | MAY . | 8 5 19 | 8 8 3 |
| JULY . 9 15 37 9 10 5 Aug 8 4 21 8 2 28 Sept 6 17 5 6 19 20 Oct 6 5 49 6 11 46 Nov { 4 18 38 5 8 5 8 5 Oct 4 7 17 4 16 44 1003. Jan 2 20 1 8 4 38 Str 1 8 45 114 49 Str 1 10 14 1 7 48 Str 2 18 10 28 28 41 April 4 10 14 1 7 48 Str 2 18 10 28 28 41 April 5 10 14 2 80 1 27 June . 29 0 26 28 12 55 July . 28 18 10 28 2 56 Aug 27 1 54 66 19 28 Sept 27 1 54 66 19 28 Sept 25 14 38 25 18 22 Oct 2 20 59 2 8 40 Arril 27 12 40 28 2 11 May . 27 2 52 27 752 Oct 2 20 59 2 8 40 Nov 28 18 10 28 2 56 Aug 27 1 54 66 19 28 Sept 25 14 38 25 18 27 Oct 25 8 22 25 752 Oct 2 20 7 6 6 24 1 20 Dec 23 4 50 28 16 46 1002. B. Fee 20 6 18 20 16 9 Str 25 14 38 20 16 9 Str 21 17 34 22 54 April 6 10 42 15 21 30 Sept 14 12 10 14 7 24 Nov 18 0 54 18 249 Nov 18 0 54 18 249 Nov 18 0 54 18 249 Nov 18 18 18 22 Nov 18 18 14 18 18 Oct 14 12 10 14 7 24 Nov 18 18 18 12 29 Nov 18 18 18 18 249 Nov 18 18 18 29 Nov 18 18 18 29 Nov 18 18 18 20 Nov 18 18 18 20 Nov 18 18 18 20 Nov 18 18 18 20 Nov 18 0 14 18 18 Nov 18 18 18 20 Nov 18 18 17 22 58 July . 17 21 58 17 8 48 Aug 16 10 42 15 21 30 Sept 14 12 10 14 7 24 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 249 Nov 18 18 18 22 16 67 Nov 18 18 18 18 22 16 67 Nov 18 18 18 18 2 28 Nov 20 7 16 19 22 15 Nov | | 0 | 13 | 26 15 49 | | JUNE . | 6 18 3 | 6 14 41 |
| July 915 37 910 5 Aug. 8 4 21 8 2 28 Sept. 617 5 619 20 Oct. 6 5 49 611 46 Nov. 4 18 33 5 3 5 5 Oct. 4 7 17 4 16 44 Sept. 6 17 7 4 16 44 Sept. 6 18 2 18 1 1 2 6 Sept. 6 19 12 55 Oct. 4 7 17 4 16 44 Sept. 6 18 2 18 1 1 2 6 Sept. 6 11 1 1 3 0 16 42 Sept. 6 11 1 1 3 0 1 1 1 3 0 16 42 Sept. 6 11 1 1 3 0 1 1 1 3 0 16 42 Sept. 6 11 1 1 1 3 0 1 1 1 3 0 16 42 Sept. 6 11 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | JUNE . | 10 2 53 | 9 19 2 | | JULY . | 6 6 47 | 5 21 55 |
| Aug. 8 4 21 8 2 28 Sept. 6 17 5 6 19 20 Oct. 6 5 49 6 11 46 Nov. 6 5 49 6 11 46 Nov. 6 19 12 55 19 2 55 Dec. 4 7 17 4 16 44 Dec. 80 11 11 30 16 42 | | | 9 15 37 | 9 10 5 | | | 4 19 31 | |
| Sept. 6 17 5 6 19 20 Oct. 6 5 49 6 11 46 Nov. 4 18 38 5 8 5 S 5 | i | 1 | 8 4 21 | 8 2 28 | | | (3 8 15 | 2 18 17 |
| Oct. 6 5 49 6 11 46 Nov. 4 18 33 5 3 5 Oct. 19 12 55 19 2 55 Dec. 4 7 17 4 16 44 1003. C. Feb. 1 8 45 114 49 81 4 16 MAR. 2 20 1 3 4 48 80 22 28 30 16 4 Oct. 10 15 17 20 16 3 46 MAY. 80 11 42 30 1 27 June. 29 0 26 28 12 55 Julx. 28 18 10 28 2 56 Aug. 27 1 54 26 19 23 Sept. 25 1 48 8 25 18 27 Oct. 25 14 8 8 18 22 Nov. 25 3 4 50 28 16 46 1002. B. Rep. 10 20 6 18 20 16 9 81 10 5 MAR. 21 17 34 22 5 41 Feb. 20 6 18 20 16 9 81 10 5 MAR. 21 19 2 22 0 37 APRIL 20 7 46 20 7 53 Oct. 21 18 92 41 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 Julx. 18 9 14 17 22 58 July. 18 10 14 7 24 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 18 0 54 18 2.49 Nov. 9 16 4 9 6 7 | | | | | | | 2 | |
| Nov { 4 18 38 5 3 5 5 | | | | | | | - | |
| 1003. | | | | | | | | |
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| 1003. | 1 | 1 | i i | | | Dra | | |
| C. Feb. 1 8 45 1 14 49 | | DEC. | ± | 4 10 14 | | DEC | 30 11 11 | 50 10 42 |
| C. Feb. 1 8 45 1 14 49 | 1003. | JAN. | 2 20 1 | 3 4 38 | 1000 | JAN | 28 28 56 | 29 10 44 |
| 31 4 16 Mar. 2 21 80 2 28 41 APRIL | c. | | | | | 1 | I . | |
| APRIL 1 10 14 | 31 4 16 | | | | | | | |
| 1002. B. 21 17 34 22 5 41 Feb. 20 6 18 20 16 9 31 10 5 Mar. 21 17 24 22 58 30 19 14 56 June 10 42 10 14 7 24 Nov. 18 0 54 18 20 16 9 Top Inc. 18 0 14 2 15 21 10 | | | 1 | | 80 O1 40 | | | |
| O | 1 | APRIL | 14 | | 30 ZI 42 | | | |
| MAY . 80 11 42 80 1 27 JUNE . 29 0 26 28 12 55 JULY . 28 18 10 28 2 56 AUG 27 1 54 26 19 23 SEPT 25 14 38 25 18 27 OCT 25 3 22 25 7 52 O | | | | - | | | | |
| JUNE . 29 0 26 28 12 55 JULY . 28 18 10 28 2 56 AUG 27 1 54 26 19 23 SETT 25 14 38 25 18 27 OCT 25 3 22 25 7 52 O | | - | 14 | 1 | | | | |
| JULY . 28 18 10 28 2 56 AUG 27 1 54 26 19 23 SEPT 25 14 38 25 18 27 OCT 25 3 22 25 7 52 O | | | | | | | | |
| Aug. 27 1 54 26 19 28 Sept. 25 14 38 25 13 27 Oct. 25 3 22 25 7 52 Oct. 25 3 22 25 7 52 Oct. 25 3 22 25 7 52 Oct. 26 3 2 25 7 52 Oct. 26 3 2 25 7 52 Oct. 27 18 22 25 48 21 17 15 Oct. 28 16 6 24 1 20 Dec. 28 4 50 28 16 46 Dec. 28 4 50 28 16 46 1002. B. B. B. B. B. B. B. B. B. B. B. B. B. | | 1 | | | | | | |
| Sept. 25 14 38 25 13 27 Oct. 25 3 22 25 7 52 Oct. 25 3 22 25 7 52 Oct. 22 5 48 21 17 15 Oct. 21 18 32 21 6 27 Nov. 22 16 6 24 1 20 Ope. 23 4 50 23 16 46 Ope. 23 4 50 23 16 46 Ope. 21 17 24 Ope. 21 18 22 Ope. | | 1 | | | | | | |
| Oct. 25 3 22 25 7 52 O | | | | = | | | 14 | |
| O | | _ | | | | | | |
| Nov 23 16 6 24 1 20 Dec 23 4 50 23 16 46 1002. Jan 21 17 84 22 5 41 Feb 20 6 18 20 16 9 Mar 21 19 2 22 0 37 April 20 7 46 20 7 58 O Mar 21 19 20 30 19 14 56 June . 18 9 14 17 22 58 July . 17 21 58 Aug 16 10 42 15 21 30 Sept 14 28 26 14 18 13 Oct 14 12 10 14 7 24 Nov 13 0 54 18 20 10 18 2 Nov 9 16 4 9 6 7 | | 1 | | | | | | |
| DEC 23 4 50 23 16 46 1002. Jan 21 17 84 22 5 41 FEE 20 6 18 20 16 9 Mar 21 19 2 22 0 37 April 20 7 46 20 7 53 O { 5 2 8 5 8 12 May . 19 20 30 19 14 56 June . 18 9 14 17 22 58 July . 17 21 58 17 8 48 Aug 16 10 42 Sept 12 19 22 58 Aug 16 10 42 Sept 14 28 26 14 18 13 Oct 14 12 10 14 7 24 Nov 13 0 54 18 2 49 Dec 23 4 50 23 16 46 999. Jan 18 8 44 18 10 42 FeB 16 21 28 17 4 48 Alama . 16 11 20 18 21 6 April 16 22 56 17 10 49 May . 16 11 40 16 21 56 June . 15 0 24 15 7 0 July . 14 18 8 14 15 1 Aug (13 1 52 12 22 58 O 27 20 14 27 17 0 Sept 11 14 36 11 7 46 Oct 14 12 10 14 7 24 Nov 13 0 54 13 2 49 Nov 9 16 4 9 6 7 | | | 11 | | | - 1 | | |
| 1002. B. 31 10 5 Jan. 21 17 84 22 5 41 E. 16 21 28 17 4 48 20 16 9 31 10 5 315 50 315 20 31 3 31 31 31 31 31 31 3 | | | | | | DEC | 19 20 0 | 19 16 4 |
| 1002. B. 31 10 5 Feb. 20 6 18 20 16 9 Mar. 21 19 2 22 0 37 April 20 7 46 20 7 53 O | | DEC | 25 4 50 | 25 10 40 | 000 | т | 10 0 44 | 10 10 40 |
| B. Feb. 20 6 18 20 16 9 3 15 50 3 15 20 17 24 18 21 19 22 20 37 3 31 31 31 31 31 3 | 1002 | JAN. | 21 17 34 | 22 5.41 | | | 1 | |
| 81 10 5 Mar 21 19 2 22 0 87 APRIL 20 7 46 20 7 58 | 1 | 1 | | | | | | |
| APRIL 20 7 46 20 7 58 O | 81 10 5 | • | | | 01 0 01 | | 13 | |
| O | 02 20 0 | 1 . | | ' • • | 91 9 91 | 1 | | |
| MAY . 19 20 30 19 14 56 June . 18 9 14 17 22 58 July . 17 21 58 17 8 48 Aug 16 10 42 15 21 30 Sept 14 28 26 14 18 18 Oct 14 12 10 14 7 24 Nov 13 0 54 18 2 49 Dec. 19 20 30 19 14 56 June . 15 0 24 15 7 0 July . 14 18 8 14 15 1 Aug (13 1 52 12 22 58 0 27 20 14 27 17 0 Sept 11 14 36 11 7 46 Oct 14 12 10 14 7 24 Nov 13 0 54 18 2 49 Dec. 18 18 28 10 24 49 Nov 9 16 4 9 6 7 | | | | | | | | 1 |
| June . 18 9 14 17 22 58 July . 17 21 58 17 8 48 Aug 16 10 42 15 21 30 Sept 14 28 26 14 18 13 Oct 14 12 10 14 7 24 Nov 13 0 54 18 249 Dre . 19 28 10 21 49 | | 1 | 13 | | | | | |
| July . 17 21 58 17 8 48 Aug 16 10 42 15 21 30 Sept 14 28 26 14 18 18 Oct 14 12 10 14 7 24 Nov 13 0 54 18 2 49 Nov 18 13 20 10 18 2 Nov 19 13 28 10 21 49 Nov 9 16 4 9 6 7 | | 1 | 1 | | | | | 1 |
| Aug. 16 10 42 15 21 30 Sept. 14 28 26 14 18 18 Oct. 14 12 10 14 7 24 Nov. 13 0 54 18 2 49 Nov. 19 10 14 19 10 14 10 14 10 14 10 14 10 10 10 10 10 10 10 10 10 10 10 10 10 | | | | 1 | | | 1 | |
| Sept. 14 28 26 14 18 18 Oct. 14 12 10 14 7 24 Nov. 18 0 54 18 249 Nov. 19 10 14 9 6 7 | | 1 . | | | | | 15 | |
| Oct. 14 12 10 14 7 24 Nov. 13 0 54 13 2 49 Oct. 11 13 50 11 7 40 Oct. 11 3 20 10 18 2 Nov. 9 16 4 9 6 7 | | 1 | 1 | | | | | |
| Nov. 13 0 54 13 249 Nov. 9 16 4 9 6 7 | | i - | | | | | | |
| Dec 19 19 29 10 21 10 11 10 11 10 11 10 11 11 11 11 11 11 | | | | | | | 1 | |
| DEC 9 4 48 8 20 8 | | I | | | | | 1 . | |
| | | | 10 00 | 12 41 40 | | DEC | 9 4 48 | 8 20 8 |

| Mean Vernal Equinox | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 998. | | d. h. m. | d. h. m. | B.C. 995. | | d. h. m. | d. h. m. |
| D. | JAN | 7 17 82 | 7 11 50 | _ G. | JAN | 4 8 42 | 4 12 5 |
| March. | FEB | 6 6 16 | 6 4 40 | March. d. h. m. | FEB | 2 21 26 | 2 21 58 |
| d. h. m. 31 9 20 | MAR. | 7 19 1 | 7 21 48 | 31 2 46 | MAR | 4 10 10 | 4 7 22 |
| 01 0 10 | APRIL | 6 7 45 | 6 14 12 | | APRIL | 2 22 54 | 2 16 52 |
| | MAY. | 5 20 29 | 6 5 4 | | MAY . | 2 11 38 | (2 3 21 |
| | JUNE . | 4 9 18 | 4 17 58 | | | (1 0 22 | 31 15 30 |
| | JULY. | 8 21 57 | 4 4 59 | | June O | 15 18 44 | 15 23 17 |
| | 00 | (2 10 41 | 2 14 46 | | | 30 13 6 | 30 5 39 |
| | Aug | 31 28 25 | (107 | | JULY . | 30 1 50 | 29 21 33 |
| | SEPT | 80 12 9 | 30 9 45 | | Aug | 28 14 34 | 28 14 31 |
| | Ocr. | 80 0 53 | 29 20 6 | | SEPT | 27 . 3 18 | 27 7 33 |
| | Nov. | 28 18 87 | 28 7 21 | | Oct | 26 16 2 | 26 23 43 |
| | DEC. | 28 2 21 | 27 19 43 | | Nov | 25 4 46 | 25 14 26 |
| | 2 | | | | DEC | 24 17 30 | 25 3 15 |
| 997. | 0 | (11 20 48 | 12 9 47 | | | | |
| C.B. | JAN | 26 15 5 | 26 9 3 | 994. | JAN | 23 6 15 | 23 14 12 |
| | FEB | 25 8 49 | 24 28 21 | F. | FEB | 21 18 59 | 21 23 30 |
| 80 15 9 | MAR | 25 16 84 | 25 14 89 | 31 8 35 | MAR | 23 7 43 | 23 7 41 |
| | APRIL | 21 5 18 | 24 6 18 | | APRIL | 21 20 27 | 21 15 33 |
| | MAY . | 28 18 2 | 28 21 42 | | MAY . | 21 9 11 | 21 0 6 |
| | JUNE . | 22 6 46 | 22 12 14 | | JUNE . | 19 21 55 | 19 10 22 |
| | 0 | (7 1 8 | 6 14 14 | | July . | 19 10 39 | 18 28 4 |
| | JULY . | 121 19 80 | 22 1 32 | | Aug | 17 28 28 | 17 14 26 |
| | Aug | 20 8 14 | 20 18 41 | | SEPT | 16 12 7 | 16 7 59 |
| | SEPT | 18 20 58 | 19 1 0 | | Ocr | ∫16 0 51 | 16 2 37 |
| | Ocr | 18 9 42 | 18 11 56 | | 0 | 30 19 13 | 30 11 56 |
| | Nov | 16 22 26 | 16 22 46 | | Nov | 14 13 35 | 14 20 52 |
| | DEC | (16 11 10 | 16 9 37 | | DEC | 14 2 19 | 14 13 32 |
| | 0 | 181 5 82 | 81 15 18 | | | | |
| | | | | 993. | JAN | 12 15 3 | 13 3 45 |
| 996. | JAN | 14 28 54 | 14 20 31 | E.D. | FEB | 11 3 47 | 11 15 18 |
| Α. | FEB | 18 12 88 | 18 7 89 | 80 14 24 | MAR | 11 16 32 | 12 0 33 |
| 80 20 58 | MAR | 15 1 22 | 14 19 26 | | APRIL | 10 5 16 | 10 8 10 |
| | APRIL | 18 14 6 | 13 8 17 | | 0 | 124 23 38 | 25 3 52 |
| | MAY . | 18 2 50 | 12 21 48 | | MAY. | 9 18 0 | 9 15 6 |
| | June . | 11 15 84 | 1 | 11 | JUNE . | 8 6 44 | 7 22 24 |
| | 0 | 26 9 50 | | | JULY. | 7 19 28 | 7 7 12 |
| | July . | 11 4 18 | 1 | | Aug. | 6 8 12 | 5 18 27 |
| | Aug | 9 17 2 | | | SEPT | 4 20 56 | 4 8 46 |
| | SEPT | 8 5 46 | | | Oct. | 4 9 40 | 4 1 56 |
| | Oct | 7 18 30 | 1 | | 0 | (19 4 2 | |
| | Nov | 6 7 11 | 1 | | Nov. | 2 22 24 | 2 21 0 |
| | DEC | 5 19 58 | 1 | | DEC. | 2 11 8 | 1 |
| | 0 | 20 14 20 | 20 13 21 | | | (81 28 52 | 14 |
| 1 | | 1 | | 992. | JAN. | . | 1 10 38 |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (○ Full Ecl.) | True New Moon. () Full Ecl.) |
|--|---|--|---|--|---|---|--|
| B.C. 992. c. March. d. h. m. 30 20 13 | Jan Feb Mar | d. h. m. { 30 12 36 { 1 1 21 30 14 5 | d. h. m. 1 10 38 31 2 17 1 14 53 31 0 33 | B.C. 989. G.F. March. d. h. m. 30 13 39 | JAN O FEB MAR APRIL MAY . | d. h. m. 28 3 46 {11 22 8 26 16 30 27 5 15 25 17 59 25 6 48 | d. h. m. 28 0 1 12 7 27 26 16 51 27 9 88 26 1 11 25 15 7 |
| | APRIL MAY. JUNE. JULY. AUG. SEPT. O OCT. Nov. | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 14 4 40 29 8 22 28 15 5 26 21 55 26 5 55 24 16 5 23 5 8 8 18 17 22 21 10- 21 15 3 | | JUNE . JULY . O AUG SEPT OCT NOV DEC | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 24 8 12 23 13 45 6 13 45 21 23 27 20 9 5 19 19 13 18 6 6 17 17 48 |
| 991. B. 31 2 1 | DEC JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 21 8 41 19 21 25 18 10 9 19 22 53 { \$ 17 15 18 11 37 18 0 21 16 18 5 16 1 49 14 14 33 13 3 17 12 16 1 11 4 45 10 17 29 | 21 11 0 20 5 50 18 22 35 20 12 25 3 10 35 18 23 18 18 7 52 16 15 8 15 22 12 14 6 7 12 15 45 12 3 41 10 18 14 10 11 1 | 988. E. 30 19 28 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | \[\begin{array}{cccccccccccccccccccccccccccccccccccc | 16 6 24 81 20 86 14 19 57 16 10 29 15 1 46 14 17 17 18 8 22 12 22 81 26 22 88 11 11 28 9 28 26 9 10 46 7 21 48 7 8 41 |
| 990. A. 81 7 50 | JAN. , FEB O MAR APBIL MAY , JUNE . JULLY , AUG , SEPT OCT NOV DEC | 5 21 54 5 10 38 3 23 22 | 9 5 14 7 28 85 22 15 2 9 16 47 8 7 47 7 20 10 6 6 16 5 14 49 8 22 52 2 7 21 1 16 59 31 4 12 29 17 13 29 7 56 | 987, D. 31 117 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 5 21 28 4 10 7 5 22 52 4 11 86 4 0 20 2 13 4 { 2 1 48 31 14 82 80 8 16 28 16 0 28 4 44 26 17 28 26 6 12 | 5 19 24 4 6 9 5 17 17 4 5 15 8 18 81 2 9 5 2 0 86 81 16 25 80 7 50 28 22 22 23 11 49 27 0 7 26 11 18 |

| Menn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|------------------------------|------------------------------|---|---|------------------------------|------------------------|--|---|
| B.C. 986. c. March. | JAN Feb | d. h. m. 24 18 56 23 7 40 | d. h. m. 24 21 25 28 6 46 | B.C. 983. F. March. | Jan | d. h. m. | d. h. m. 21 22 48 |
| d. h. m. 81 7 6 | MAR APRIL MAY . | 24 20 25 28 9 9 22 21 58 | 24 15 58 23 1 20 22 12 37 | d. h. m. 31 0 32 | FEB MAR APRIL MAY . | 19 22 50 21 11 34 20 0 18 19 13 2 | 20 12 52 21 23 53 20 8 26 19 15 30 |
| | O JUNE . JULY . AUG | 6 16 15 21 10 37 20 28 21 19 12 5 | 6 28 6 21 1 40 20 16 48 19 9 30 | | JUNE . JULY . AUG | 18 1 46 17 14 30 16 3 14 | 17 22 9 17 5 30 15 14 34 |
| | SEPT OCT Nov | 18 0 49 17 18 88 16 2 17 | 18 2 54 17 19 58 16 11 36 | | SEPT OCT Nov DEC | 14 15 58 14 4 42 12 17 26 12 6 10 | 14 2 18 13 16 50 12 10 10 12 5 12 |
| 985. | DEC | 180 20 89 15 15 1 14 8 45 | 80 11 23 16 1 27 14 18 17 | 982. E. 81 6 21 | JAN FEB. , MAR | 10 18 54 9 7 38 (10 20 28 | 11 0 27 9 18 17 11 9 38 |
| в.а. 80 12 54 | FEB MAR APRIL MAY . | 12 16 29 18 5 18 11 17 57 (11 6 41 | 12 23 12 18 7 89 11 15 23 10 23 19 | 01 0 21 | O APRIL MAY, | 125 14 45 9 9 7 8 21 51 | 25 8 53 9 21 49 9 7 28 |
| | O June . July . | 0 1 1 8 9 19 25 9 8 9 | 26 10 32 9 8 29 8 19 52 | | JUNE . JULY . AUG SEPT | 7 10 35 6 23 19 5 12 3 (4 0 47 | 7 15 17 6 22 26 5 5 57 8 14 45 |
| | Aug Sept Oct Nov | 7 20 58 6 9 87 5 22 21 (4 11 5 | 7 9 59 6 2 41 5 21 6 4 15 54 | | Ocr., Nov., | 18 19 9 8 18 31 2 2 15 | 18 23 19 8 1 37 1 14 53 |
| | O Dec | 119 5 27 8 28 49 | 18 22 11 4 9 87 | 001 | DEC | 1 14 59 81 3 48 29 16 27 | 1 6 82 31 0 0 29 18 15 |
| 984. c. 80 18 43 | JAN FEB MAR | 2 12 88 1 1 18 2 14 2 (1 2 46 | 8 1 9 1 14 0 8 0 12 1 8 23 | 981. n.c. 80 12 10 | Jan., Feb O Mar., | 28 5 11 13 23 33 128 17 56 | 28 12 0 13 23 16 29 4 4 |
| | O MAY . | (15 9 52 (16 4 14 | 80 15 24 15 18 80 29 22 19 | | APRIL MAY. JUNE. JULY. | 27 6 40 26 19 24 25 8 8 24 20 52 | 27 17 46 27 4 59 25 14 40 24 22 43 |
| | June . July . Aug Sept | 28 16 58 28 5 42 26 18 26 25 7 10 | 28 6 18 27 16 11 26 4 59 21 20 58 | | Aug O Sept., | 23 9 36 7 8 59 21 22 20 | 28 7 4 7 0 20 21 16 14 |
| | Oct Nov Dec | 21 10 54 28 8 88 22 21 22 | 24 15 1 5 28 10 48 28 5 49 | | Oct Nov Dec | 21 11 4 19 23 48 19 12 32 | 21 2 44 19 14 51 19 4 87 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon, (() Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|-------------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| B.C. 980. | | d. h. m. | d. h. m. | B.C. 977. | | d. h. m. | d. h. m. |
| в. | JAN | 18 1 16 | 17 19 49 | F.E. | JAN | 15 16 26 | 15 00 50 |
| March. | FEB | 16 14 0 | 16 12 5 | March. | FEB | 1 | 15 20 50 |
| d. h. m. 30 17 59 | MAR | 18 2 44 | 18 4 43 | d. h. m. | MAR | 14 5 10 14 17 54 | 14 6 18 |
| 00 1. 00 | APRIL | 16 15 28 | 16 20 50 | 80 11 25 | | | 14 15 18 |
| | MAY. | 16 4 12 | 16 11 41 | | APRIL | 13 6 38 | 13 0 15 |
| | JUNE. | 14 16 56 | 15 0 47 | | MAY . | 12 19 22 | 12 10 19 |
| | JULY. | 14 5 40 | 14 12 14 | | June. | 11 8 6 | 10 22 13 |
| | Aug | 12 18 24 | 12 22 33 | | | 10 20 50 | 26 6 44 |
| | SEPT. | 11 7 8 | 12 22 53 | | July. | 10 20 50 | 10 12 20 |
| | Oct | 10 19 52 | 10 18 26 | | Aug | 9 9 34 | 9 4 29 |
| | Nov. | 9 .8 36 | 9 5 0 | | SEPT | 7 22 18 | 7 21 52 |
| | DEC. | 8 21 20 | 8 16 16 | | Oct | 7 11 2 | 7 15 26 |
| | DEC. | 0 21 20 | O 10 10 | | Nov. | 5 23 46 | 6 8 6 |
| 979. | JAN. , | 7 10 4 | 7 4 14 | | DEC | 5 12 30 | 5 23 4 |
| A. | 0 | 22 4 26 | 22 17 55 | | | | |
| | FEB | 5 22 48 | 5 17 1 | 976. | JAN | 4 1 14 | 4 11 55 |
| 80 23 47 | MAR. | 7 11 33 | 7 6 47 | D. | FEB | 2 13 58 | 2 22 39 |
| 00 20 21 | APRIL | 6 0 17 | 5 21 27 | 30 17 14 | MAR | 4 2 43 | 4 7 36 |
| | MAY. | 5 13 1 | 5 12 46 | | APRIL | 2 15 27 | 2 15 25 |
| | JUNE. | 4 1 45 | 4 4 9 | | MAY . | [2 4 11 | 1 22 57 |
| | JULY. | (3 14 29 | 3 18 57 | | | 81 16 55 | 31 7 15 |
|] | 0 | 18 8 51 | 17 21 43 | | June. | 30 5 39 | 29 17 24 |
| | | (2 8 18 | 2 8 46 | | July. | 29 18 23 | 29 6 7 |
| | Aug | 31 15 57 | 31 21 30 | | Aug | 28 7 7 | 27 21 41 |
| 1 | SEPT | 80 4 41 | 30 9 23 | | SEPT | 26 19 51 | 26 15 32 |
| | Oct | 29 17 25 | 29 20 45 | | Oct | 26 8 85 | 26 10 29 |
| | Nov | 28 6 9 | 28 7 46 | | 0 | 10 2 57 | 9 20 49 |
| | DEC | 27 18 53 | 27 18 29 | | Nov. | 24 21 19 | 25 5 5 |
| | | | | | DEC | 24 10 3 | 24 21 51 |
| 978. | 0 | J11 13 15 | 11 21 50 | | | | |
| G. | JAN | 26 7 37 | 26 4 59 | 975. | JAN | 22 22 47 | 23 12 3 |
| | FEB | 24 20 21 | 24 15 35 | c. | FEB | 21 11 31 | 21 28 24 |
| 31 5 26 | MAR | 26 9 6 | 26 2 47 | 30 23 3 | MAR | 23 0 16 | 23 8 24 |
| | APRIL | 24 21 50 | 24 15 8 | | APRIL | 21 13 0 | 21 15 46 |
| | MAY . | 24 10 34 | 24 4 55 | | 0 | 6 7 22 | 6 10 22 |
| | June. | 22 23 18 | 22 20 2 | | MAY. | 21 1 44 | 20 22 32 |
| | 0 | 7 17 40 | 7 13 55 | | June. | 19 14 28 | 19 5 46 |
| | JULY. | 22 12 2 | 22 11 55 | | July. | 19 3 12 | 18 14 35 |
| | Aug | | 21 3 52 | | Aug | 17 15 56 | 17 1 58 |
| | SEPT | | 19 19 10 | | SEPT | 16 4 40 | 15 16 25 |
| | Ост | 19 2 14 | 19 9 28 | , | Oct | ∫15 17 24 | 15 9 45 |
| 1 | Nov | 17 14 58 | 17 22 31 | | 0 | 30 11 46 | 30 12 31 |
| | 1 | 1 | | | | | |
| i | DEC | 17 3 42 31 22 4 | 17 10 17 | | Nov | 14 6 8 | 14 4 57 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--------------------------------------|--|--|---|---------------------------------------|--|---|--|
| B.C. 974. B. March. d. h. m. 31 4 51 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 12 7 86 10 20 20 12 9 4 (10 21 48 (25 16 10 10 10 82 8 28 16 8 12 0 7 0 41 5 18 28 (5 2 12 (19 20 81 8 14 56 8 8 40 | d. h. m. 12 18 36 11 10 8 12 22 38 11 8 11 25 11 20 10 15 48 8 22 83 8 5 28 6 18 39 5 0 1 4 18 18 20 2 50 8 4 57 2 28 35 | B.C. 971. E. March. d. h. m. 30 22 18 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | d. h. m. 8 22 46 { 7 11 30 22 5 52 9 0 14 7 12 58 7 1 42 5 14 26 5 3 10 { 3 15 54 18 10 16 2 4 38 1 17 22 81 6 6 29 18 50 29 7 34 | d. h. m. 8 16 9 7 7 41 22 15 38 8 23 56 7 16 14 7 7 44 5 21 49 5 10 15 3 21 17 17 21 15 2 7 22 1 17 40 31 4 6 29 15 2 29 2 30 |
| 973. A.G. | JAN FEB MAR | \begin{cases} 1 & 16 & 24 \\ 81 & 5 & 8 \\ 29 & 17 & 58 \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 1 18 48 81 13 24 { 1 5 58 80 19 41 | 970, D. | JAN O FEB | 27 20 18 11 14 40 26 9 2 | 27 14 87 12 4 85 26 8 84 |
| | O APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 14 0 59 28 19 21 28 8 5 26 20 49 26 9 88 24 22 17 23 11 1 22 28 45 21 12 29 21 1 18 | 18 17 48 29 6 82 28 15 11 26 22 88 26 5 59 24 14 12 28 0 6 22 12 12 21 2 89 20 19 10 | 81 4 7 | MAR APRIL MAY JUNE O AUG SEPT OCT NOV DEC | 27 21 47 26 10 81 25 28 15 24 11 59 24 0 48 7 19 5 22 18 27 21 2 11 20 14 55 19 3 39 18 16 28 | 27 17 81 26 8 22 25 28 48 24 14 57 24 5 81 7 6 17 22 19 8 21 7 88 20 19 28 19 6 46 18 17 87 |
| 972. F. 30 16 29 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 19 18 57 18 2 41 4 21 8 19 15 26 18 4 10 17 16 54 16 5 88 15 18 22 14 7 6 12 19 50 12 8 84 10 21 18 10 10 2 | 19 28 48 18 14 39 18 8 7 16 18 27 15 22 28 14 6 49 12 15 48 12 1 40 10 18 0 | 969. с.в. 30 9 56 | JAN FEB MAR AFRIL MAY . JUNE . JULY , AUG SEPT OCT NOV DEC | 17 5 7 15 17 51 16 6 35 14 19 19 14 8 8 12 20 47 12 9 31 10 22 15 9 10 59 8 23 48 7 12 27 7 1 11 | 17 4 3 15 14 19 16 0 51 14 12 18 14 1 9 12 15 84 12 7 13 10 23 26 9 15 26 9 6 33 7 20 28 7 8 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|----------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 968. | | d. h. m. | d. h. m. | B.C. 965. | | d. h. m. | d. h. m. |
| A. | Jan | 5 13 55 | 5 20 4 | E.D. | JAN | 3 5 5 | 3 13 44 |
| March, $d. h. m.$ | FEB | 4 2 39 | 4 5 53 | March. | FEB | 1 17 49 | 2 6 33 |
| 30 15 44 | MAR | 5 15 24 | 5 14 48 | d. h. m. | 3.5 | 1 2 6 34 | 2 20 33 |
| | APRIL | 4 4 8 | 3 23 26 | 30 9 11 | MAR | l 31 19 18 | (1 7 58 |
| | MAY . | 3 16 52 | 3 8 40 | | APRIL | 30 8 2 | 30 15 53 |
| | June . | (2 5 36 | 1 19 26 | | MAY . | 29 20 46 | 29 22 57 |
| | 0 | 16 23 58 | 17 6 24 | | June . | 28 9 30 | 28 5 41 |
| | т | (1 18 20 | 1 8 22 | | JULY . | 27 22 14 | 27 13 12 |
| | JULY. | (31 7 4 | 30 23 39 | | Aug | 26 10 58 | 25 22 30 |
| | Aug | 29 19 48 | 29 16 41 | | SEPT | 24 28 42 | 24 10 20 |
| | SEPT | 28 8 32 | 28 10 32 | | Ост | 24 12 26 | 24 1 2 |
| | Oct | 27 21 16 | 28 4 1 | | Nov | 23 1 10 | 22 18 17 |
| | Nov | 26 10 0 | 26 20 5 | | DEC | 22 13 54 | 22 13 8 |
| | . 0 | (11 4 22 | 10 19 50 | | | | |
| | DEC | 25 22 44 | 26 10 5 | 964. | JAN | 21 2 38 | 21 8 6 |
| | | | | C. | FEB | 19 15 22 | 20 1 41 |
| 967. | JAN | 24 11 28 | 24 21 46 | 30 15 0 | MAR | 21 4 7 | 21 16 48 |
| G. | FEB | 23 0 12 | 28 7 24 | | 0 | f 4 22 29 | 4 16 20 |
| 30 21 33 | MAR | 24 12 57 | 24 15 31 | | APRIL | 19 16 51 | 20 5 0 |
| | APRIL | 23 1 41 | 22 22 55 | | MAY . | 19 5 83 | 19 14 41 |
| | MAY . | 22 14 25 | 22 6 35 | | JUNE . | 17 18 19 | 17 22 42 |
| | 0 | 6 8 47 | 6 17 25 | | JULY. | 17 7 3 | 17 6 6 |
| | June . | 21 3 9 | 20 15 36 | | Aug | 15 19 47 | 15 13 56 |
| | JULY . | 20 15 53 | 20 2 58 | | SEPT | (14 8 31 | 13 23 5 |
| | Aug | 19 4 37 | 18 17 12 | | 0 | 129 2 53 | 29 7 17 |
| | SEPT | 17 17 21 | 17 10 7 | | Ост | 13 21 15 | 18 10 8 |
| | Ост | 17 6 5 | 17 4 51 | | Nov | 12 9 59 | 11 23 25 |
| | Nov | ∫15 18 4 9 | 15 23 58 | | DEC | 11 22 43 | 11 14 50 |
| | 0 | (30 13 11 | 30 7 3 | | | | |
| | DEC | 15 7 33 | 15 17 52 | 963. | Jan | 10 11 27 | 10 7 54 |
| | _ | | | в. | FEB | 9 0 11 | 9 1 41 |
| 966. F. | JAN | 13 20 17 | 14 9 26 | 30 20 49 | MAR | [10 12 55 | 10 19 2 |
| | FEB | 12 9 1 | 12 22 7 | | 0 | 25 7 17 | 25 7 5 |
| 31 3 22 | MAR. | 13 21 45 | 14 8 5 | | APRIL | 9 1 39 | 9 10 58 |
| | APRIL | 12 10 29 | 12 16 1 | | MAY. | 8 14 23 | 9 0 34 |
| | MAY . | 11 23 13 | 11 22 53 | | JUNE. | 7 8 7 | 7 12 1 |
| | -0 | 26 17 35 | 26 21 11 | | JULY . | 6 15 51 | 6 21 41 |
| | June. | 10 11 57 | 10 5 43 | | Aug | 5 4 85 | 5 6 29 |
| | JULY. | 10 0 41 | 9 13 37 | | SEPT | 5 3 17 19 | 3 15 18 |
| | Aug | 8 13 25 | 7 23 41 | | 0 | 18 11 41 | 18 7 48 |
| | SEPT | 7 2 9 | 6 12 33 | | Ocr | 3 6 3 | 3 0 51 |
| | Oct | 6 14 53 | 6 4 40 | | Nov | 1 18 47 | ſ 1 11 33 |
| | Nov. | 5 8 37 | 4 23 9 | | DEC | (1 7 31 | 180 28 86 |
| | DEC | 4 16 21 | 4 18 45 | H . | DEC. | 30 20 15 | 30 13 0 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 962. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| A | JAN | 29 9 0 | 29 3 43 | 959. | 0 | (11 5 48 | 11 5 1 |
| d. h. m. | FEB | 27 21 44 | 27 19 23 | March. | JAN | [26 0 10] | 26 5 25 |
| 31 2 37 | MAR | 29 10 28 | 29 11 31 | d. h. m. | FEB | 24 12 54 | 24 14 30 |
| | APRIL | 27 23 12 | 28 3 24 | 30 20 4 | MAR | 26 1 38 | 25 22 58 |
| | MAY . | 27 11 56 | 27 18 16 | | APRIL | 24 14 22 | 24 7 34 |
| | June . | 26 0 40 | 26 7 41 | | MAY . | 24 3 6 | 23 17 18 |
| | JULY. | 25 13 24 | 25 19 36 | | JUNE . | 22 15 50 | 22 5 1 |
| | Aug | 24 2 8 | 24 6 26 | | 0 | (7 10 12 | 7 14 18 |
| | SEPT | 22 14 52 | 22 16 49 | | JULY. | 22 4 31 | 21 19 10 |
| | Ост. | 22 3 36 | 22 3 15 | | Aug | 20 17 18 | 20 11 32 |
| ì | Nov. | 20 16 20 | 20 13 59 | | SEPT | 19 6 2 | 19 5 20 |
| | DEC. | 20 5 4 | 20 1 6 | | Ост | 18 18 46 | 18 23 23 |
| | DEC | | | | Nov | 17 7 30 | 17 16 28 |
| | _ | 10 17 10 | 10 10 10 | | DEC | 16 20 14 | 17 7 38 |
| 961. | JAN | 18 17 48 | 18 12 40 | | 220. | | |
| G.F. | _ 0 | 2 12 10 | 3 1 54 | 958. | JAN | 15 8 58 | 15 20 27 |
| | FEB | 17 6 32 | 17 0 53 | с. | FEB. | 13 21 42 | 14 6 57 |
| 30 8 26 | MAR | 17 19 17 | 17 14 2 | 31 1 53 | MAR. | 15 10 27 | 15 15 36 |
| | APRIL | 16 8 1 | 16 4 12 | WZ - 00 | APRIL | 13 23 11 | 13 23 5 |
| | MAY . | 15 20 45 | 15 19 14 | | MAY . | 13 11 55 | 13 6 20 |
| | June. | 14 9 29 | 14 10 39 | | JUNE . | 12 0 39 | 11 14 27 |
| | July. | $\begin{cases} 13 & 22 & 13 \end{cases}$ | 14 1 46 | | JULY . | 11 13 23 | 11 0 31 |
| | 0 | 28 16 35 | 28 5 21 | | Aug. | 10 2 7 | 9 13 20 |
| | Aug | 12 10 57 | 12 16 6 | | SEPT. | 8 14 51 | 8 5 4 |
| | SEPT | 10 23 41 | 11 5 27 | | Ост. | 8 3 35 | 7 23 12 |
| | Ocr | 10 12 25 | 10 17 54 | | Nov. | (6 16 19 | 6 18 27 |
| | Nov | 9 1 9 | 9 5 37 | | 0 | 21 10 41 | 21 5 45 |
| | DEC | 8 13 53 | 8 16 44 | | DEC. | 6 5 3 | 6 13 15 |
| | | | | | DEC | 0 0 0 | 0 10 10 |
| 960. | JAN | (7 2 37 | 7 3 15 | 057 | JAN | 4 17 47 | 5 6 6 |
| E. | 0 | 21 20 59 | 22 5 34 | 957. B.A. | FEB. | 3 6 31 | 3 20 11 |
| | FEB | 5 15 21 | 5 13 21 | £0 7 42 | MAR. | 3 19 15 | 4 7 21 |
| 30 14 15 | MAR. | 7 4 5 | 6 23 25 | 00 1 32 | APRIL | 2 7 59 | 2 16 6 |
| | APRIL | 5 16 49 | 5 10 3 | | AIMI | , 1 20 43 | 1 23 18 |
| | MAY . | 5 5 33 | 4 21 55 | | MAYO | 16 15 5 | 16 15 44 |
| | JUNE . | 3 18 17 | 3 11 27 | | Juni C | 31 9 27 | 31 5 57 |
| | JULY. | (371 | 3 2 35 | | JUNE . | 29 22 11 | 29 13 10 |
| | 0 | 18 1 23 | 17 21 36 | | JULY. | 29 10 55 | 28 22 6 |
| | | (1 19 45 | 1 18 45 | 1 | | 27 23 39 | 27 9 36 |
| | Aug | 81 8 29 | 31 11 12 | ll l | Aug | 26 12 23 | 26 0 13 |
| | SEPT | 29 21 13 | 30 3 8 | | SEPT | 23 1 7 | 25 17 39 |
| | OCT. | 29 9 57 | 29 17 57 | | Oct | (9 19 29 | 9 21 26 |
| | Nov. | 27 22 41 | 23 7 18 | | Nov | 24 13 51 | 24 12 54 |
| | DEC. | 27 11 25 | 27 19 5 | | 1 | 1 | 24 8 23 |
| | | 2. 1. 20 | | | DEC | 2± 2 00 | 1 2 0 10 |
| 1 | | 1 | 1 | II | 1 | 4 | ' |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (⊃ Full Ecl.) | True New Moon. () Full Ecl.) |
|--|--|--|---|---|--|---|---|
| B.C. 956. G. March. d. h. m. 30 13 30 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 22 15 20 21 4 4 22 16 48 21 5 32 { 5 23 54 { 20 18 16 19 7 0 18 19 44 17 8 23 15 21 12 { 15 9 56 30 4 18 13 22 40 13 11 24 | d. h. m. 23 2 26 21 17 49 23 6 6 21 15 37 5 18 0 20 23 14 19 6 1 18 18 8 16 21 33 15 8 9 14 21 28 30 11 29 18 18 29 18 7 37 | B.C. 953. D.C. March. d. h. m. 30 6 57 | JAN FER O MAR APRIL MAY - JUNE - JULY - AUG O SEPT OCT NOV DEC | d. h. m. 20 6 30 18 19 14 5 4 18 36 19 7 58 17 20 42 17 9 26 15 22 10 15 10 54 5 18 28 38 28 18 0 12 12 22 12 1 6 10 13 50 10 2 31 | d. h. m. 20 0 17 18 15 13 4 23 40 19 6 55 17 22 50 17 14 15 16 4 31 15 17 22 14 4 58 28 4 36 12 15 47 12 2 22 10 18 8 9 28 57 |
| 955. F. 30 19 19 | JAN FEB MAR AFRIL O MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 12 0 8 10 12 52 12 1 36 (10 14 20) (25 8 42 10 3 4 8 15 48 8 4 32 6 17 16 5 6 0 4 18 44 3 7 28 2 20 12 { 1 8 56 (30 21 40 | 12 2 34 10 20 51 12 13 11 11 2 47 25 0 58 10 13 41 8 22 28 8 6 10 6 13 51 4 22 26 4 8 36 2 20 48 2 11 6 | 952. B. 80 12 46 | Jan Feb O Mar April May . June . July . Aug O Sept Oct Nov Dec | 8 15 18 { 7 4 2 { 21 22 21 8 16 46 7 5 80 6 18 14 5 6 58 4 19 42 { 8 8 26 { 1 21 10 { 1 9 54 { 30 22 88 29 11 22 29 0 6 | 8 11 7 6 22 44 22 12 25 8 11 4 7 0 26 6 14 52 5 6 9 4 21 85 8 12 86 17 14 4 2 2 45 1 15 55 81 4 18 29 15 42 29 2 27 |
| 31 1 8 | APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | $\begin{cases} 1 & 10 & 25 \\ 16 & 4 & 47 \\ 30 & 23 & 9 \\ 29 & 11 & 53 \\ 29 & 0 & 37 \\ 27 & 18 & 21 \\ 27 & 2 & 5 \\ 25 & 14 & 49 \\ 24 & 3 & 33 \\ 28 & 16 & 17 \\ 22 & 5 & 1 \\ 21 & 17 & 45 \\ \end{cases}$ | 1 14 2 16 7 6 31 6 37 29 21 23 29 9 59 27 20 37 27 5 58 25 14 54 21 0 14 23 10 27 21 21 50 21 10 26 | 951. A. 30 18 35 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 27 12 51 26 1 35 27 14 19 26 8 8 25 15 47 24 4 81 28 17 15 22 5 59 20 18 48 20 7 27 18 20 11 18 8 55 | 27 12 87 25 22 22 27 8 21 25 19 17 25 7 49 28 22 7 28 18 58 22 6 85 20 23 9 20 14 51 19 5 8 18 17 47 |

| Mean Vernal Equinox, | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Menn New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------|----------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 950. | | d. h. m. | d. h. m. | B.C. 947. | | d. h. m. | d, h. m. |
| G. | JAN | 16 21 39 | 17 4 45 | C. 7 | JAN | 13 12 49 | 13 21 34 |
| March. $d. h. m.$ | FEB | 15 10 28 | 15 14 14 | March. $d. h. m.$ | FEB | 12 1 33 | 12 14 19 |
| 31 0 23 | MAR | 16 23 8 | 16 22 44 | 30 17 50 | MAR. | 13 14 18 | 14 4 5 |
| | APRIL | 15 11 52 | 15 6 55 | | APRIL | 12 3 2 | 12 14 51 |
| | MAY . | 15 0 3G | 14 15 47 | | MAY. | 11 15 46 | 11 23 16 |
| | June . | (13 13 20 | 13 2 19 | | June. | 10 4 30 | 10 6 23 |
| | 0 | 28 7 42 | 28 13 44 | | July. | 9 17 14 | 9 13 17 |
| | July . | 13 2 4 | 12 15 13 | | Aug. | 8 5 58 | 7 21 4 |
| | Aug | 11 14 48 | 11 6 36 | | SEPT. | 6 18 42 | 6 6 37 |
| | SEPT. | 10 3 32 | 10 0 0 | | Oct. | 6 7 26 | 5 18 36 |
| | Oct. | 9 16 16 | 9 18 18 | | Nov. | 4 20 10 | 4 9 20 |
| | Nov. | 8 5 0 | 8 12 13 | | DEC. | 4 8 54 | 4 2 26 |
| | Dec. | (7 17 44 | 8 4 34 | | DEG. | # 0 0# | 4 4 4 40 |
| | 0 | 22 12 6 | 22 4 17 | | _ | 1 | |
| | | \ | | 946. | JAN | 2 21 38 | 2 20 59 |
| 949. | JAN | 6 6 28 | 6 18 37 | в. | FEB | 1 10 22 | 1 15 37 |
| F.E. | FEB. | 4 19 12 | 5 6 8 | 30 23 39 | MAR | 2 23 6 | 3 8 56 |
| 30 6 12 | MAR. | 5 7 56 | 5 15 29 | | APRIL | 5 1 11 50 | 1 23 52 |
| 50 0 12 | APRIL | 3 20 40 | 3 23 16 | | 0 | 16 6 12 | 15 23 40 |
| 1 | May . | 3 9 24 | 3 6 22 | i | MAY. | S 1 0 34 | 1 12 4 |
| 1 | JUNE . | (122 8 | (1 13 50 | | | (30 13 18 | 30 21 52 |
| | 0 | 16 16 30 | 17 0 16 | | June. | 29 2 2 | 29 6 7 |
| | | (1 10 52 | (30 22 47 | | JULY. | 28 14 46 | 28 13 51 |
| | July . | 30 23 36 | 30 10 10 | | Aug | 27 3 30 | 26 22 4 |
| 1 | Aug | 29 12 20 | 29 0 32 | | Sept | 25 16 14 | 25 7 32 |
| | SEPT. | 28 1 4 | 27 17 42 | | 0 | \frac{10}{36} | 10 15 9 |
| | Oct. | 27 13 48 | 27 12 43 | | Oct | 25 4 58 | 24 18 46 |
| 1 | Nov. | 26 2 32 | 26 8 1 | | Nov | 23 17 42 | 23 7 59 |
| | 0 | (10 20 54 | 10 15 53 | | DEC | 23 6 26 | 22 23 6 |
| 1 | DEC. | 25 15 16 | 26 2 2 | | | | |
| | | 20 10 10 | 40 4 4 | 945. | JAN | 21 19 10 | 21 15 42 |
| 948. | JAN | 24 4 1 | 24 17 34 | A.G. | FEB | 20 7 54 | 20 8 58 |
| D. | FEB. | 22 16 45 | 23 6 6 | 30 5 28 | MAR. | 20 20 39 | 21 1 56 |
| 30 12 1 | MAR. | 24 5 29 | 24 15 52 | | 0 | (4151 | 4 14 49 |
| - | APRIL | 22 18 13 | 22 23 37 | | APRIL | 19 9 23 | 19 17 37 |
| | MAY. | 22 6 57 | 22 6 20 | | May . | 18 22 7 | 19 7 21 |
| i / | 0 | 6 1 19 | 6 3 42 | | June. | 17 10 51 | 17 19 3 |
| | JUNE . | 20 19 41 | 20 13 9 | | July. | 16 23 35 | 17 5 8 |
| | July . | 20 8 25 | 19 21 9 | | Aug. | 1 5 12 19 | 15 14 25 |
| | Aug. | 18 21 9 | 18 7 21 | | SEPT | (14 1 3 | 13 23 42 |
| | SEPT. | 17 9 53 | 16 20 28 | | 0 | 28 19 25 | 28 15 16 |
| | Ост. | 16 22 37 | 16 12 36 | | Oct | 13 13 47 | 13 9 34 |
| | Nov. | 15 11 21 | 15 7 9 | | Nov | 12 2 31 | 11 20 26 |
| | DEC. | 15 0 5 | 15 2 42 | | DEC | 11 15 15 | 11 8 21 |
| | | 1000 | | | | | |

| | | | | | | | 1 |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl |
| B.C. 944. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m |
| March. | JAN | 10 3 59 | 9 21 23 | 941. | JAN | 7 19 9 | 8 3 49 |
| d. h. m. | FEB | 8 16 43 | 8 11 29 | с.в. March. | 0 | 22 13 31 | 22 12 41 |
| 30 11 16 | MAR | (10 5 27 | 10 2 34 | d. h. m. | FEB | 6 7 58 | 6 13 52 |
| | 0 | 24 23 49 | 25 7 49 | 30 4 43 | MAR | 6 20 37 | 6 22 35 |
| 1 | APRIL | 8 18 11 | 8 18 14 | | APRIL | 5 9 21 | 5 6 36 |
| 1 | MAY . | 8 6 55 | 8 9 53 | | MAY . | 4 22 5 | 4 14 49 |
| | JUNE . | 6 19 39 | 7 0 50 | | JUNE . | 3 10 49 | 3 0 17 |
| 1 | JULY. | 6 8 23 | 6 14 35 | | July . | ç 2 23 33 | 2 11 58 |
| 1 | Aug | 4 21 7 | 5 3 0 | | 0 | 17 17 55 | 17 21 45 |
| | SEPT | 3 9 51 | 3 14 27 | | A | f 1 12 17 | 1 2 5 |
| | Ocr | 2 22 35 | 3 1 21 | ľ | Aug | (31 1 1 | 30 18 42 |
| | Nov | 1 11 19 | ſ 1 12 7 | | SEPT | 29 13 45 | 29 12 54 |
| 1 | DEC. | (1 0 3 | \ 30 22 56 | | Oct | 29 2 29 | 29 7 24 |
| | DEC | (30 12 47 | 30 9 53 | | Nov | 27 15 13 | 28 0 48 |
| | } | | | | DEC | 27 3 57 | 27 16 6 |
| 943. | JAN | 29 1 31 | 28 21 1 | | | | |
| E. | 0 | (12 19 53 | 13 9 43 | 940. | JAN | 25 16 41 | 26 4 57 |
| j | FEB | 27 14 16 | 27 8 39 | А. | FEB | 24 5 25 | 24 15 7 |
| 30 17 5 | MAR | 29 3 0 | 28 21 10 | 30 10 32 | MAR | 25 18 10 | 25 23 20 |
| | APRIL | 27 15 44 | 27 10 53 | | APRIL | 24 6 54 | 24 6 80 |
| 1 | MAY . | 27 4 28 | 27 1 40 | | MAY . | 23 19 88 | 28 18 40 |
| | JUNE . | 25 17 12 | 25 17 9 | | JUNE . | 22 8 22 | 21 21 4 |
| | JULY. | 25 5 56 | 25 8 37 | | JULY . | 21 21 6 | 21 7 47 |
| 1 | 0 | 9 0 18 | 8 13 7 | | Aug | 20 9 50 | 19 20 4 |
| 1 | Aug | 23 18 40 | 23 23 31 | | SEPT | 18 22 34 | 18 12 8 |
| | SEPT | 22 7 24 | 22 13 30 | | Ocr | 18 11 18 | 18 6 59 |
| 1 | Oct | 21 20 8 | 22 2 29 | | Nov | 17 0 2 | 17 2 2 |
| 1 | Nov | 20 8 52 | 20 14 30 | | 0 | (1 18 24 | 1 14 8 |
| 1 | DEC. | 19 21 36 | 20 1 38 | | DEC | 16 12 46 | 16 21 1 |
| 942. | JAN | 18 10 20 | 18 11 55 | 939. | JAN. | 15 1 30 | 15 14 1 |
| D. | 0 | (2 4 42 | _ | G. | FEB. | 13 14 14 | |
| | FEB | 16 23 4 | 16 21 36 | 30 16 21 | MAR. | 15 2 59 | |
| 30 22 54 | MAR | 18 11 49 | 18 7 8 | | APRIL | 13 15 43 | 1 |
| | APRIL | 17 0 33 | 16 17 15 | | MAY. | (13 4 27 | |
| | MAY. | 16 13 17 | 16 4 43 | | 0 | 27 22 49 | |
| | JUNE. | 15 2 1 | 14 18 2 | | JUNE . | 11 17 11 | |
| 1 | JULY. | 14 14 45 | 14 9 13 | | JULY . | 11 5 55 | |
| | 0 | 29 9 7 | 29 5 23 | | Aug. | 9 18 39 | 1 '' |
| | Aug | 13 3 29 | 13 1 44 | | SEPT. | 8 7 23 | |
| 1 | SEPT | 11 16 13 | 11 18 42 | | Ocr. | 7 20 7 | 7 81 |
| | Oct | 11 4 57 | 11 11 11 | | Nov. | (6 8 51 | |
| 1 | 1 | | | | | | |
| 1 | Nov | | 10 2 28 | | 0 | 21 3 13 | 21 6 2 |
| - | 1 | | 10 2 28 9 16 4 | , | O DEC | 12 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|--|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 938. | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| F. | JAN | 4 10 19 | 4 16 14 | B.C. | | | w. n. n. |
| March. | FEB. | 2 23 3 | | 935. B. | JAN | § 1 1 29 | ••• |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | MAR. | 4 11 47 | 3 10 6 5 1 18 | | - | (30 14 13 | 30 8 17 |
| 00 22 0 | APRIL | 3 0 31 | 3 13 28 | March. | FEB | | 28 22 37 |
| | MAY . | (2 13 15 | 2 22 57 | d. h. m. | 70 0 | 1 2 57 | |
| | 0 | 17 7 37 | 17 0 38 | 30 15 36 | Mar. O | 15 21 19 | 16 7 32 |
| | Ĭ | (1 1 59 | 1 6 36 | | APRIL | 30 15 41 29 4 25 | 30 13 47 |
| | June. | 80 14 48 | 30 13 34 | | MAY. | 28 17 9 | 29 5 22 28 20 43 |
| | JULY. | 80 3 27 | 29 20 54 | | JUNE. | 27 5 53 | |
| | Aug | 28 16 11 | 28 5 36 | | JULY. | 26 18 37 | 27 11 14 27 0 33 |
| | SEPT. | 27 4 55 | 26 16 24 | | Aug. | 25 7 21 | 27 0 88 25 12 44 |
| | Oct. | 26 17 89 | 26 5 48 | [| Αυσ | (9 1 43 | 8 12 16 |
| | 0 | (10 12 1 | 10 20 8 | | SEPT | 23 20 5 | 24 0 7 |
| - 17 | Nov | 25 6 23 | 21 21 44 | | Oct. | 23 8 49 | 23 11 7 |
| | DEC. | 24 19 7 | 24 15 35 | | Nov. | 21 21 33 | 21 22 0 |
| | | | | <u> </u> | DEC. | 21 10 17 | 21 8 51 |
| 937. | JAN | 28 7 52 | 23 10 12 | 004 | JAN. | 19 23 1 | |
| E.D. | FEB | 21 20 86 | 22 4 9 | 934. | FEB. | 18 11 45 | 19 19 40 18 6 44 |
| 30 3 58 | MAR | 22 9 20 | 22 20 14 | | | (5 6 7 | 5 20 5 |
| | APRIL | 20 22 4 | 21 9 48 | 30 21 25 | Mar. | 20 0 30 | 19 18 29 |
| | 0 | 5 16 26 | 5 8 5 | 50 21 25 | APRIL | 18 13 14 | 18 7 18 |
| | MAY. | 20 10 48 | 20 20 46 | | MAY. | 18 1 58 | 17 21 25 |
| | June . | 18 23 32 | 19 5 47 | | JUNE . | 16 14 42 | 16 12 37 |
| | JULY. | 18 12 16 | 18 13 50 | | JULY. | 16 3 26 | 16 4 18 |
| | Aug | 17 1 0 | 16 21 58 | | Aug | (14 16 10 | 14 19 48 |
| | SEPT | 15 13 44 | 15 6 50 | | 0 | 29 10 32 | 28 22 3 |
| | Ocr | 15 2 28 | 14 17 14 | | SEPT | 13 4 54 | 13 10 33 |
| | Nov. | 13 15 12 | 13 5 28 | | Oct. | 12 17 38 | 13 0 19 |
| | DEC | 18 8 56 | 12 19 33 | | Nov | 11 6 22 | 11 13 0 |
| 000 | T | 11 10 40 | 44 44 42 | | DEC | 10 19 6 | 11 0 38 |
| 936. c. | JAN | 11 16 40 | 11 11 15 10 4 2 | 933. | JAN | 9 7 50 | 9 11 16 |
| 1 | MAR. | (11 18 9 | 11 21 3 | G.F. | FEB. | 7 20 34 | 7 21 1 |
| 80 9 47 | O O | 26 12 81 | 26 14 57 | 30 3 14 | MAR. | 8 9 19 | 8 6 18 |
| | Arnil | 10 6 53 | 10 13 20 | | APRIL | 6 22 3 | 6 15 46 |
| | MAY . | 9 19 37 | 10 4 4 | | MAY . | 6 10 47 | 6 2 15 |
| | June . | 8 8 21 | 8 16 58 | | June . | 4 23 31 | 4 14 29 |
| | July. | 7 21 5 | 8 8 58 | | JULY . | 4 12 15 | 4 4 45 |
| 1 | Aug. | 6 9 49 | 6 13 42 | | Aug | (8 0 59 | 2 20 47 |
| | SEPT. | 4 22 33 | 4 23 8 | | 0 | 17 19 21 | 17 13 24 |
| | Oct. | 4 11 17 | 4 8 51 | | SEPT | 1 13 43 | 1 13 52 |
| | Nov. | 3 0 1 | 2 19 19 | | 000 | 1 .2 27 | 1 6 59 |
| | 1 | (2 12 45 | 2 6 41 | | Oct | 30 15 11 | 30 23 10 |
| | DEC | K | 31 18 59 | | Nov | 29 3 55 | 29 13 49 |
| | | 11 | | M I | DEC | 28 16 39 | 29 2 30 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|------------|---|-----------------------------|----------------------------|--------|------------------------------------|----------------|
| B.C. 932. | | d. h. m. | d. h. m. | B.C. 929. | | d. h. m. | d. h. m. |
| E. | JAN. , | 27 5 23 | 27 13 17 | B.A. | JAN | 24 20 33 | 25 5 16 |
| March. | FEB. | 25 18 7 | 25 22 26 | March. $d. h. m.$ | FEB | 23 9 17 | 23 21 49 |
| d. h. m. 30 9 2 | MAR. | 27 6 51 | 27 6 30 | 30 2 29 | MAR | 23 22 1 | 24 11 26 |
| 00 0 2 | APRIL | 25 19 35 | 25 14 19 | | APRIL | 22 10 45 | 22 22 9 |
| | MAY . | 25 8 19 | 24 22 53 | | MAY . | 21 23 29 | 22 6 36 |
| ~ | JUNE. | 23 21 3 | 23 9 16 | | June. | 20 12 13 | 20 13 51 |
| 1 | | (8 15 25 | 8 21 7 | | JULY. | 20 0 57 | 19 21 0 |
| | O July. | 23 9 47 | 22 22 9 | | Aug. | 18 13 41 | 18 5 3 |
| 1 | Aug. | 21 22 31 | 21 13 44 | | SEPT. | 17 2 25 | 16 14 52 |
| | SEPT. | 20 11 15 | 20 7 27 | | Oct. | 16 15 9 | 16 3 0 |
| | | 19 28 59 | 20 2 9 | | Nov. | 15 3 53 | 14 17 41 |
| | Oct Nov | 18 12 43 | 18 20 24 | | DEC. | 14 16 37 | 14 10 33 |
| | DEC. | 18 1 27 | 18 12 58 | | DEC. | 21 10 0. | 11 10 00 |
| | DEC. | 10 1 21 | 10 12 00 | | _ | 40 7 04 | 10 1 15 |
| | _ | (1 19 49 | 1 12 41 | 928. | JAN | 13 5 21 | 18 4 45 |
| 931. | O Jan | 16 14 11 | 17 2 59 | | FEB. | 11 18 5 | 11 22 59 |
| D. | FEB | 15 2 55 | 15 14 21 | 30 8 18 | MAR. | 13 6 50 | 13 16 1 |
| 30 14 51 | MAR. | 16 15 40 | 16 23 25 | | APRIL | §11 19 34 | 12 6 50 |
| 00 11 01 | APRIL | 15 4 24 | 15 6 55 | | 0 | 126 13 56 | 26 6 58 |
| | MAY . | 14 17 8 | 14 13 49 | , | MAY. | 11 8 18 | 11 19 4 |
| | JUNE . | (13 5 52 | 12 21 9 | | June. | 9 21 2 | 10 5 4 |
| | 0 | 28 0 14 | 28 6 49 | | July . | 9 9 46 | 9 13 37 |
| | JULY . | 12 18 36 | 12 6 5 | | Aug | 7 22 30 | 7 21 45 |
| | Aug. | 1 | 10 17 33 | | SEPT | 6 11 14 | 6 6 21 |
| ļ | SEPT. | 9 20 4 | 9 8 5 | | Oct | 5 23 58 | 5 16 8 |
| | Oct. | | 9 1 26 | | 0 | 20 18 20 | 20 23 8 |
| | Nov. | | 7 20 37 | | Nov. | 4 12 42 | 4 3 30 |
| 1 | DEC. | 7 10 16 | | | DEC. | 4 1 26 | 3 16 35 |
| 1 | 0 | $\begin{cases} 22 & 4 & 38 \end{cases}$ | 1 | | | | |
| | | (== === | 0 10 | 927. | JAN. | 2 14 10 | $\int 2 721$ |
| 930. | JAN. | 5 23 0 | 6 10 6 | F. | FEB | 1 2 54 | 31 23 24 |
| c. | FEB. | 4 11 44 | | 30 14 7 | MAR | 2 15 38 | 2 16 9 |
| 30 20 40 | MAR. | 1 | | 11 | | (1 4 22 | 1 8 43 |
| | APRIL | | | | APRIL | 15 22 44 | 15 22 25 |
| | MAY | 1 | | | | 30 17 6 | 1 0 13 |
| | JUNE | | 1 | | MAY . | 30 5 50 | 30 14 4 |
| | 0 | 17 9 2 | | | June . | 28 18 34 | 29 2 5 |
| | 1- | (2 3 24 | | | JULY . | 28 7 18 | 28 12 38 |
| | JULY | . 31 16 8 | | 11 | Aug. | 26 20 2 | 26 22 25 |
| | AUG. | . 30 4 52 | 1 | | SEPT | 25 8 46 | 25 8 10 |
| | SEPT. | 4 | l l | | . 0 | £10 3 8 | 9 22 57 |
| | Oct. | . 28 6 20 | | | Oct | 124 21 30 | 24 18 21 |
| | Nov. | | | | Nov. | 23 10 14 | 23 5 21 |
| | DEC. | . 26 7 48 | 1 | | DEC. | 22 22 58 | 22 17 4 |
| 1 | 1 | | | | | | 1 |

| Monn Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New |
|-------------------|--------|---------------------------------------|----------------|-------------------|-----------|-------------------|----------------------|
| Equinox. | | (O Full Ecl.) | (O Full Ecl.) | Equinox. | DAUGE DEL | (O Full Ecl.) | (OFull Ecl.) |
| B.C. | | d. h. m. | d. h. m. | | | 7 7 | 7.7 |
| 926. E. | JAN | 21 11 42 | 21 5 38 | B.C. 923. | Jan | 18 · 2 52 | d. h. m. 18 12 25 |
| March. | FEB. | 20 0 26 | 19 19 8 | A. | | (1 21 14 | 1 20 14 |
| d. h. m. 30 19 55 | MAR. | 21 13 11 | 21 9 38 | March. | FEB | 16.15 36 | 16 22 10 |
| 35 25 31 | 0 | (5 7 33 | 5 15 30 | d. h. m. 30 13 22 | MAR. | 18 4 21 | 18 6 31 |
| | APRIL | $\begin{cases} 20 & 1.55 \end{cases}$ | 20 0 52 | 00 10 22 | APRIL | 16 17 5 | 16 14 10 |
| | MAY. | 19 14 39 | 19 16 20 | | MAY. | 16 5 49 | 15 22 4 |
| | JUNE . | 18 3 23 | 18 7 25 | | JUNE . | 14 18 33 | 14 7 20 |
| | July. | 17 16 7 | 17 21 33 | | JULY. | (14 7 17 | 13 18 52 |
| | Aug. | 16 4 51 | 16 10 34 | | O O | 29 1 39 | 29 5 25 |
| | SEPT. | (14 17 35 | 14 22 35 | | Aug. | 12 20 1 | 12 9 12 |
| | 0 | 29 11 57 | 28 23 55 | | SEPT. | 11 8 45 | |
| | 0 | 14 6 19 | 14 9 59 | | Ocr. | 10 21 29 | 11 2 4 |
| | Nov. | 12 19 3 | 12 21 3 | | Nov. | 9 10 13 | 9 15 27 |
| | DEC. | 12 7 47 | 12 7 54 | | DEC. | 8 22 57 | 9 9 7 |
| 1 | DEC | 12 / 12 | 12 1 04 | | DEC. , | 0 22 31 | 991 |
| 925. | JAN | 10 20 31 | 10 18 35 | 922. | Jan | 7 11 41 | 8 0 29 |
| D.C. | FEB. | (9 9 15 | 9 5 15 | G. | FEB | 6 0 25 | 6 13 7 |
| | 0 | 24 3 37 | 24 17 23 | 30 19 11 | MAR. | 7 13 10 | 7 23 8 |
| 00 1 44 | MAR. | 9 22 0 | 9 16 18 | 00 10 11 | APRIL | 6 1 54 | 6 7 10 |
| 1 33 - 22 | APRIL | 8 10 44 | 8 4 16 | | MAY. | 5 14 38 | 5 14 7 |
| | MAY . | 7 28 28 | 7 17 32 | | JUNE . | 4 3 22 | 3 21 2 |
| | JUNE . | 6 12 12 | 6 8 9 | | JULY. | 3 16 6 | 8 5 2 |
| | JULY . | 6 0 56 | 5 23 44 | | | (2 4 50 | 1 15 11 |
| | Aug | 4 13 40 | 4 15 86 | | Aug | 81 17 34 | 31 4 13 |
| 1 | SEPT | 3 2 24 | 3 7 5 | | SEPT | 30 6 18 | 29 20 19 |
| | Oct | 2 15 8 | 2 21 40 | | Ocr. | 29 19 2 | 29 14 50 |
| | | (1 8 52 | 111 8 | | Nov | 28 7 46 | 28 10 24 |
| | Nov | 230 16 36 | 30 23 24 | | 0 | (13 2 8 | 12 23 35 |
| | DEC | 80 5 20 | 30 10 30 | | DEC | {27 ·20 ·30 | 28 5 21 |
| 924. | JAN | 28 18 4 | 28 20 30 | 921. | Jan | 26 9 14 | 26 22 9 |
| B. | 0 | (12 12 26 | 12 20 31 | F.E. | FEB | 24 21 58 | 25 11 59 |
| | FEB | 27 6 48 | 27 5 42 | 30 1 0 | Mar | 25 10 42 | 25 22 47 |
| EØ 7 38 | MAR | 28 19 32 | 28 14 44 | | APRIL | 23 23 26 | 24 7 10 |
| | APRIL | 27 8 16 | 27 0 23 | | MAY . | 23 12 10 | 23 14 12 |
| | MAY . | 26 21 0 | 26 11 30 | | 0 | f 7 6 32 | 7 5 41 |
| | JUNE . | 25 9 44 | 25 0 41 | | June . | 122 0 54 | 21 20 52 |
| | JULY . | 24 22 28 | 24 15 57 | | JULY. | 21 13 38 | 21 4 19 |
| | 0 | (8 16 50 | 8 13 18 | | Aug | 20 2 22 | 19 13 31 |
| | Aug | 23 11 12 | 23 8 49 | | SEPT | 18 15 6 | 18 1 26 |
| | SEPT | 21 23 56 | 22 2 18 | | Ocr | 18 3 50 | 17 16 16 |
| | Ocr | 21 12 40 | 21 19 19 | | Nov | 16 16 31 | 16 9 44 |
| | Nov | 20 · 1 24 | 20 10 59 | | 0 | ſ 1 10 56 | 1 15 20 |
| 6 | DEC | 19 14 8 | 20 0 45 | } | Dec | 16 5 18 | 16 4 48 |
| 1 | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|--|---|--|---|--|---|--|
| B.C. 920. D. March. d. h. m. 30 6 48 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | d. h. m. 14 18 2 13 6 46 14 19 31 13 8 15 {12 20 59 {27 15 21} 11 9 48 10 22 27 9 11 11 7 23 55 7 12 39 {6 1 23 {20 19 45 5 14 7 | d. h. m. 14 23 57 18 17 37 15 8 40 13 20 44 13 6 13 27 7 17 11 14 1 10 21 12 9 4 49 7 13 49 7 0 51 5 14 17 21 4 50 5 6 1 | B.C. 917. A.G. March. d. h. m. 30 0 15 | JAN. : FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV | d. h. m. 12 9 12 10 21 56 {11 10 41 26 5 3 9 23 25 9 12 9 8 0 53 7 13 37 6 2 21 { 4 15 5 19 9 27 4 3 49 2 16 33 { 2 5 17 31 18 1 | d. h. m. 12 3 28 10 16 12 11 5 55 26 15 16 9 20 38 9 11 51 8 3 18 7 18 1 6 7 52 4 20 38 18 20 6 4 8 35 2 20 0 2 7 0 31 17 41 |
| 919. c. 30 12 37 | JAN FEB MAR APRIL MAY O JUNE . JULY . AUG SEPT OCT NOV DEC | 4 2 51 2 15 35 4 4 20 2 17 4 2 5 48 17 0 10 31 18 32 30 7 16 29 20 0 28 8 44 26 21 28 26 10 12 24 22 56 24 11 40 | 3 23 30 2 17 42 4 11 18 3 3 11 2 16 42 16 15 12 (1 3 50 30 18 9 29 21 34 28 6 2 26 15 21 26 1 59 24 14 12 24 3 59 | 916. F. 30 6 4 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 30 6 45 28 19 29 {15 18 51 {80 8 18 28 20 57 28 9 41 26 22 25 26 11 9 24 23 58 {8 18 15 28 12 37 28 1 21 21 14 5 21 2 49 | 30 4 6 28 14 37 16 8 35 30 1 46 28 14 6 28 3 55 26 19 6 26 11 5 25 3 6 8 6 9 28 18 28 28 28 46 21 21 48 21 9 81 |
| 918. B. 30 18 26 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 28 0 24 21 18 8 28 1 52 21 14 36 21 3 20 19 16 4 19 4 48 17 17 32 16 6 16 15 19 0 14 7 44 13 20 28 | 22 19 12 21 11 24 23 3 56 21 19 57 21 10 41 19 23 44 19 11 11 17 21 31 16 7 28 15 17 36 14 4 15 13 15 32 | 915. E. 30 11 52 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 19 15 33 18 4 17 19 17 2 18 5 46 17 18 30 16 7 14 15 19 58 {14 8 42 29 3 4 12 21 26 12 10 10 10 22 54 10 11 38 | 19 19 54 18 5 17 19 14 5 17 23 6 17 9 11 15 21 11 15 11 28 14 3 45 28 21 38 12 21 15 12 14 58 11 7 38 10 22 26 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|---|------------------------------|
| B.C. 914. | | d. h. m. | d. h. m. | B.C. 911. | | d. h. m. | d. h. m. |
| March. | JAN | 9. 0 22 | 9 11 9 | G. | JAN | 5 15 32 | 5 18 23 |
| d. h. m. | FEB | 7 13 6 | 7 21 41 | March. $d.$ $h.$ $m.$ | FEB | 4 4 16 | 4 12 49 |
| 30 17 41 | MAR | 9 1 51 | 9 6 30 | 30 11 8 | MAR | 5 17 1 | 6 5 10 |
| | APRIL | 7 14 85 | 7 14 12 | | APRIL | 4 5 45 | 4 18 40 |
| | MAY . | 7 3 19 | 6 21 42 | | MAY . | 3 18 29 | 4 5 22 |
| | June : | 5 16 3 | 5 6 4 | | JUNE . | 2 7 12 | 2 13 54 |
| | JULY. | 5 4 47 | 4 16 18 | | _ | 1 19 55 | 1 21 20 |
| | 0 | 19 23 9 | 20 4 35 | | July. | 31 8 39 | 31 4 46 |
| | Aug | 3 17 31 | 3 5 15 | | Aug. | 29 21 23 | 29 13 9 |
| | SEPT | 2 6 15 | 1 21 1 | | SEPT. | 28 10 7 | 27 23 14 |
| | 0 | ſ 1 18 59 | 1 15 2 | | Oct | 27 22 51 | 27 11 30 |
| | Ост | 131 7 43 | 31 10 5 | | Nov. | 26 11 35 | 26 2 4 |
| | Nov | 29 20 27 | 30 4 37 | | DEC. | 26 0 19 | 25 18 37 |
| | DEC | 29 9 11 | 29 21 17 | | | | |
| 913. | 0 | (13 3 33 | 12 21 1 | 910. | JAN | 24 13 3 | 24 12 22 |
| C.B. | JAN. | 27 21 55 | 28 11 16 | F. | FEB | 23 1 48 | 23 6 13 |
| | FEB. | 26 10 39 | 26 22 25 | 30 16 57 | Mar | 24 14 33 | 24 22 57 |
| 29 23 30 | MAR. | 26 23 23 | 27 7 13 | | APRIL | 23 3 17 | 23 13 38 |
| 20 20 00 | APRIL | 25 12 7 | 25 14 29 | | 0 | ∫ 7 21 39 | 7 14 13 |
| | MAY. | 25 0 51 | 24 21 13 | | MAY . | 22 16 1 | 23 1 59 |
| | June . | 28 18 85 | 23 4 30 | | JUNE. | 21 4 45 | 21 12 15 |
| 1 11 | 0 | (8 7 57 | 8 14 5 | | JULY. | 20 17 29 | 20 21 10 |
| | July. | 23 2 19 | 22 13 29 | | Aug | 19 6 13 | 19 5 45 |
| | Aug. | 21 15 3 | 21 1 5 | | SEPT | 17 18 57 | 17 14 46 |
| 1 | SEPT. | 20 3 47 | 19 15 46 | | Oct | 17 7 41 | 17 0 50 |
| | Oct | 19 16 31 | 19 9 15 | | 0 | $\begin{bmatrix} 1 & 2 & 3 \end{bmatrix}$ | 1 7 10 |
| 1 13 | Nov. | 18 5 15 | 18 4 33 | | Nov. | 15 20 25 | 15 12 18 |
| | DEC | 17 17 59 | 18 0 2 | | DEC | 15 9 9 | 15 1 11 |
| 912. | 0 | (1 12 21 | 1 9 29 | 909. | Jan | 13 21 53 | 13 15 29 |
| Α. | JAN | 16 6 43 | 16 18 2 | E.D. | FEB | 12 10 37 | 12 6 59 |
| | FEB | 14 19 27 | 15 9 19 | 29 22 45 | MAR | 12 23 22 | 12 23 10 |
| 30 5 19 | MAR. | 16 8 12 | 16 21 32 | | APRIL | ∫11 12 6 | 11 15 23 |
| | APRIL | 14 20 56 | 15 6 59 | | 0 | 126 6 28 | 26 5 58 |
| | MAY . | 14 9 40 | 14 14 81 | | May . | 11 0 50 | 11 6 46 |
| | JUNE . | (12 22 24 | 12 21 15 | | June . | 9 13 34 | 9 20 48 |
| | 0 | 27 16 46 | 27 16 41 | | JULY. | 9 2 18 | 9 9 12 |
| | JULY. | 12 11 8 | 12 4 14 | | Aug | 7 15 2 | 7 20 16 |
| | Aug. | 10 28 52 | 10 12 35 | | SEPT | 6 3 46 | 6 6 86 |
| | SEPT. | 9 12 36 | 8 23 10 | | Ocr | 5 16 30 | 5 16 49 |
| | Oct. | 9 1 20 | 8 12 34 | | 0 | 20 10 52 | 20 6 44 |
| | Nov. | 7 14 4 | 7 4 48 | | Nov | 4 5 14 | 4 3 19 |
| | DEC. | 7 2 48 | 6 23 10 | | DEC | 3 17 58 | 3 14 17 |
| 18 | | | | | | | |

| , | | | | , , , , , | | | |
|--------------------|--------|------------------------|------------------------|--------------------|--------|------------------------|------------------------|
| Mean | 25 | Mean New | True New | Mean | 35 | Mean New | True New |
| Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. (∩ Full Ecl.) | Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. (O Full Ecl.) |
| | | | | | | | |
| | | J 7. m | 1 7 m | | | d. h. m. | d. h. m. |
| B.C. | | d. h. m. | d. h. m. | B.C. | | w. n. n. | Cla 11. 716. |
| 908. | T | r 2 6 42 | 2 1 44 | 905. | JAN | 29 10 36 | 29 20 53 |
| c. | JAN | [31 19 26] | 31 13 48 | G.F. | 0 | (13 4 58 | 13 3 42 |
| March. | FEB | | | d. h . m . | FEB | (27 23 21 | 28 6 22 |
| d. h. m. | | (2 8 11 | 2 2 43 | 29 22 1 | MAR | 28 12 5 | 28 14 20 |
| 30 4 34 | MAR | 31 20 55 | 31 16 36 | | APRIL | 27 0 49 | 26 21 39 |
| ŀ | 0 | (15 15 17 | 15 23 6 | | MAY . | 26 13 33 | 26 5 19 |
| 1 | APRIL | 30 9 39 | 30 7 26 | | June . | 25 2 17 | 24 14 27 |
| | MAY . | 29 22 23 | 29 22 46 | | JULY. | 24 15 1 | 24 1 59 |
| • | June . | 28 11 7 | 28 14 3 | | 0 | (8 9 23 | 8 13 10 |
| | July. | 27 23 51 | 28 4 37 | | Aug | 28 3 45 | 22 16 26 |
| | Aug. | 26 12 35 | 26 18 12 | | SEPT. | 21 16 29 | 21 9 34 |
| | SEPT | 25 1 19 | 25 6 50 | | Oct | 21 5 13 | 21 4 26 |
| | | (9 19 41 | 9 7 54 | | Nov. | 19 17 57 | 19 23 33 |
| , | 0 | 17 1 | | | | | |
| | Oct | 24 14 3 | 24 18 43 | | DEC | 19. 6 41 | 19 17 22 |
| | Nov | 23 2 47 | 23 6 2 | 904. | т | 17 19 25 | 18 8 44 |
| 1 | DEC | 22 15 31 | 22 16 50 | E. | JAN | | 16 21 12 |
| 907. | JAN | 21 4 15 | 21 3 11 | | FEB | 16 8 9 | |
| в. | FEB | 19 16 59 | 19 13 22 | 30 3 50 | Mar | 17 20 53 | 18 6 59 |
| 30 10 23 | MAR. | 21 5 43 | 20 23 50 | | APRIL | 16 9 37 | 16 14 47 |
| | APRIL | 19 18 27 | 19 11 15 | | MAY . | 15 22 21 | 15 21 35 |
| | MAY . | 19 7 11 | 19 0 8 | | June. | 14 11 5 | 14 4 25 |
| | June . | 17 19 55 | 17 14 39 | | JULY. | 13 23 49 | 13 12 27 |
| | JULY. | 17 8 39 | 17 6 24 | | Aug | 12 12 33 | 11 22 48 |
| | Aug. | 15 21 23 | 15 22 41 | | SEPT | 11 1 17 | 10 11 54 |
| 1 | SEPT. | 14 10 7 | 14 14 45 | | Ocr | 10 14 1 | 10 4 8 |
| | Ост. | 13 22 51 | 14 5 55 | | Nov | 9 2 45 | 8 22 45 |
| 1 | Nov. | 12 11 35 | 12 19 49 | | Dec | f 8 15 29 | 8 18 23 |
| 1 | DEC. | 12 11 33 | 12 13 45 | 1 | 0 | 23 9 51 | 23 8 26 |
| | DEC | 12 0 19 | 12 0 19 | | | | |
| 906. | JAN | 10 13 3 | 10 19 13 | 903. | Jan | 7 4 13 | 7 13 16 |
| Α. | FEB | (9 1 47 | 9 4 54 | D. | FEB | 5 16 57 | 6 5 57 |
| | 0 | 23 20 9 | 24 3 48 | 30 9 38 | MAR | 7.542 | 7 19 38 |
| 30 16 12 | MAR. | 10 14 32 | 10 13 42 | | APRIL | 5 18 26 | 6 6 19 |
| | APRIL | 9 3 16 | 8 22 15 | | MAY . | 5 7 10 | 5 14 38 |
| | MAY . | 8 16 0 | 8 7 30 | | June. | 3 19 54 | 3 21 39 |
| | JUNE . | 7 4 44 | 6 18 21 | | 0 | 18 14 16 | 18 12 8 |
| | JULY. | 6 17 28 | 6 7 27 | | July. | 3 8 38 | 3 4 25 |
| | Aug | (5 6 12 | 4 22 51 | | A | (1 21 22 | 1 12 4 |
| | 0 | 20 0 34 | 19 21 21 | | AUG | (31 10 6 | 30 21 34 |
| | SEPT. | 3 18 56 | 3 16 3 | | SEPT | 29 22 50 | 29 9 86 |
| | Oct. | 3 7 40 | 3 10 0 | | Oct | 29 11 34 | 29 0 29 |
| | Nov. | 1 20 24 | 2 3 30 | | Nov. | 28.018 | 27 17 51 |
| | | (1 9 8 | 1 19 31 | | 0 | (12.18.40 | 13 0 16 |
| | DEC | 30 21 52 | 31 9 22 | | DEC | 27.13 2 | 27 12 42 |
| | 1 | (00 21 02 | OT 9 22 | | | | ^ |
| Α | | | | | | V. | |

| | | - 11 | Equinox. | | Moon. (O Full Ecl.) | Moon. O Full Ecl.) |
|--------|---|---|---|---|------------------------|-----------------------|
| | d. h. m. | d. h. m. | B.C. 899. | | d. h. m. | d. h. m. |
| JAN | 26 1 46 | 26 7 34 | March. | JAN | 22 16 56 | $22 \ 11 \ 52$ |
| FEB | 24 14 31 | 25 1 0 | d. h. m. | Feb | 21 5 40 | 21 0 2 |
| MAR | 26 3 15 | 26 15 53 | 30 8 54 | MAR | 22 18 24 | 22 13 6 |
| APRIL | 24 15 59 | 25 3 54 | | 0 | 6 12 46 | 6 22 52 |
| MAY . | 24, 4 43 | 24 13 28 | | APRIL | 21 7 8 | 21 3 15 |
| 0 | 5 7 23 5 | 7 13 58 | | MAY . | 20 19 52 | 20 18 18 |
| June. | (22 17 27 | 22 21 25 | | JUNE . | 19, 8 36 | 19 9 4 2 |
| JULY. | 22 6 11 | 22 4 54 | | JULY. | 18 21 20 | 19 0 53, |
| Aug | 20 18 55 | 20 12 52 | | Aug | 17 10 4 | 17 15 14 |
| SEPT | 1 9 7 39 | 18 22 11 | | SEPT | $\int 15 \ 22 \ 48$ | 16 4 38 |
| Oct | 18 20 23 | 18 9 24 | | 0 | \dagger 130 17 10 | 30 4 6 |
| Nov | 17 9 7 | 16 22 49 | | Oct | 15 11 32 | 15 17 8 |
| 0 | 5 2 3 29 | 2 13 30 | | Nov | 14 0 16 | 14 4 51 |
| Dec | (16 21 51 | 16 14 18 | | DEC | 13 13 0 | 13 15 56 |
| ~ | 12 10 02 | 45 5 00 | 898. | JAN | 12 1 44 | 12 2 23 |
| | 1 | | | FEB | | 10 12 24 |
| | | | 30 14 43 | Mar | 12 | 11 22 24 |
| | | | | 0 | 126 21 36 | 27 10 58 |
| | | | • | APRIL | 10 15 57 | 10 8 59 |
| | 1.7 | | ł | 1 | | 9 20 58 |
| | | | | 1 | | 8 10 29 |
| | | | | JULY. | 8 6 9 | 8 1 42 |
| | | | | Aug | | 6 17 59 |
| | 1 | | | SEPT | 17 | 5 10 31 |
| _ | 1 | | | | | 19 14 26 |
| | | | | | 1 | 5 2 30 |
| | | 1 1 | | | | 3 17 18 |
| DEC. | 9, 6 99 | 4 22 00 | | DEC | 2 21 49 | 3 6 36 |
| TAN | 8 10 98 | 8 12 21 | 897. | JAN | 1 10 33 | 1 18 18 |
| | | | D.C. | | 1 | 31 4 28 |
| | | | 00 00 01 | | | 29 13 27 29 21 48 |
| | 1 | 1 | 29 20 31 | | | 29 21 48 |
| | | | | 1 | | 28 6 25 |
| MAY . | 31 11 4 | 31 17 17 | | | 26 14 58 | 26 4 0 |
| JUNE . | 29 23 48 | 30 6 39 | | | 26 3 42 | 25 18 18 |
| JULY . | 29 12 32 | 29 18 35 | | Aug. | 24 16 26 | 24 10 51 |
| Aug | 28 1 16 | 28 5 29 | | 1 | | 8 5 52 |
| SEPT | 26 14 0 | 26 15 56 | | SEPT | 12 | 1 |
| Ocr | 26 2 44 | 26 2 27 | | Oct | 22 17 54 | 22 22 53 |
| Nov | 24 15 28 | 24 13 13 | | Nov. | 1 | 21 15 56 |
| DEC | 24 4 12 | 24 0 21 | | DEC | 00,40.00 | 21 7 0 |
| | APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV DEC JAN FEB APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV DEC JAN FEB MAR . APRIL MAY . OCT LOCT LOCT JULY . AUG SEPT OCT LOCT LOCT LOCT LOCT LOCT LOCT NOV | APRIL 24 15 59 MAY 24 4 48 7 28 5 22 17 27 JULY 22 6 11 AUG 20 18 55 5 27 17 9 7 20 20 20 20 20 20 20 | APRIL 24 15 59 25 3 54 MAY . 24 4 48 24 13 28 7 13 58 JUNE . 22 17 27 22 21 25 JULY . 22 6 11 22 4 54 AUG 20 18 55 20 12 52 SEPT 19 7 39 18 22 11 Oct 18 20 23 18 9 24 Nov 17 9 7 16 22 49 0 2 12 50 16 14 18 | APRIL 24 15 59 25 3 54 MAY . 24 4 48 24 13 28 | APRIL | APRIL |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|----------|---|-----------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 908. | | d. h. m. | d. h. m. 2 1 44 | B.C. 905. | Jan | d. h. m. | d. h. m. 29 20 53 |
| c. | JAN | 31 19 26 | 31 13 48 | G.F. | 0 | (13 4 58 | 13 3 42 |
| March. | FEB | (01 10 10 | | March. | FEB | 27 23 21 | 28 6 22 |
| d. h. m. | Z 2D | (2 8 11 | 2 2 43 | d. h. m. 29 22 1 | MAR. | 28 12 5 | 28 14 20 |
| 30 4 34 | MAR | 31 20 55 | 31 16 36 | | APRIL | 27 0 49 | 26 21 39 |
| | 0 | (15 15 17 | 15 23 6 | | MAY. | 26 13 33 | 26 5 19 |
| | APRIL | 30 9 39 | 30 7 26 | | JUNE . | 25 2 17 | 24 14 27 |
| | MAY. | 29 22 23 | 29 22 46 | | JULY. | 24 15 1 | 24 1 59 |
| 4 | JUNE . | 28 11 7 | 28 14 3 | | 0 | (8 9 23 | 8 13 10 |
| | JULY. | 27 23 51 | 28 4 37 | | Aug. | 23 3 45 | 22 16 26 |
| | Aug. | 26 12 35 | 26 18 12 | | SEPT. | 21 16 29 | 21 9 34 |
| | SEPT. | 25 1 19 | 25 6 50 | | Oct. | 21 5 13 | 21 4 26 |
| | 0 | (9 19 41 | 9 7 54 | | Nov. | 19 17 57 | 19 23 33 |
| 1 | Oct | 24 14 3 | 24 18 43 | | DEC | 19 6 41 | 19 17 22 |
| Į | Nov | 23 2 47 | 23 6 2 | | | | |
| 1 | DEC. | 22 15 31 | 22 16 50 | 904. | JAN | 17 19 25 | 18 8 44 |
| 007 | | | | E. | FEB | 16 8 9 | 16 21 12 |
| 907. B. | JAN | 21 4 15 | 21 3 11 | 30 3 50 | MAR | 17 20 53 | 18 6 59 |
| | FEB | 19 16 59 | 19 13 22 | | APRIL | 16 9 37 | 16 14 47 |
| 30 10 23 | MAR., | 21 5 43 | 20 23 50 | | MAY . | 15 22 21 | 15 21 35 |
| 1 | APRIL | 19 18 27 | 19 11 15 | | June . | 14 11 5 | 14 4 25 |
| | MAY. | 19 7 11 | 19 0 8 | | JULY. | 13 23 49 | 13 12 27 |
| | JUNE. | 17 19 55 17 8 39 | 17 14 38 | | Aug | 12 12 33 | 11 22 43 |
| | JULY. | 17 8 39 15 21 23 | 17 6 24 15 22 41 | | SEPT | 11. 1 17 | 10 11 54 |
| | Aug | 14 10 7 | 14 14 45 | | Ocr | 10 14 1 | 10 4 8 |
| | SEPT | 13 22 51 | 14 14 45 | | Nov | 9 2 45 | 8 22 45 |
| | Nov. | 12 11 35 | 12 19 49 | | DEC | 8 15 29 | 8 18 23 |
| | DEC. | 12 11 33 | 12 13 43 | | 0 | 23 9 51 | 23 8 26 |
| | DEC | 12 0 19 | 12 0 13 | 000 | - | | 7 10 10 |
| 906. | JAN | 10 13 3 | 10 19 13 | 903. | JAN | 7 4 13 | 7 13 16 |
| А. | FEB | 9 1 47 | 9 4 54 | 30 9 38 | FEB | 5 16 57 | 6 5 57 7 19 38 |
| | 0 | 23 20 9 | | 50 9 55 | MAR | 7.542 | 6 6 19 |
| 30 16 12 | | 1 | 10 13 42 | | APRIL | 5 18 26 5 7 10 | 5 14 38 |
| | APRIL | 9 3 16 | 8 22 15 | | MAY . | 5 7 10 | 3 21 39 |
| | MAY . | 1 | 8 7 30 | lt | JUNE. | 18 14 16 | 18 12 8 |
| | JUNE . | 1 | | | JULY. | 3. 8 38 | 3 4 25 |
| | July . | | | | John. | (1 21 22 | 1 12 4 |
| | Aug. | 13 | | | Aug | 31 10 6 | 30 21 34 |
| | 0 | 20 0 34 | | | SEPT | 29 22 50 | 29 9 36 |
| | SEPT. | | 1 | | OCT. | 29 11 34 | 29 0 29 |
| | Oct. | 1 | | | Nov. | 28 0 18 | 27 17 51 |
| | Nov. | | 1 | | 0 | 12.18 40 | |
| | DEC. | $\begin{vmatrix} 1 & 9 & 8 \\ 30 & 21 & 52 \end{vmatrix}$ | | | DEC. | 27.13 2 | |
| | <u> </u> | (00 21 02 | 01 9 22 | | | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|--|------------------------------------|
| B.C. 896. | | d. h. m. | d. h. m. | B.C. 893. | | d. h. m. | d. h. m. |
| В. | JAN | 19 8 6 | 19 19 39 | F.E. | JAN | 16 23 16 | 17 2 5 |
| d. h . m . | FEB | 17 20 50 | 18 5 57 | March. $d. h. m.$ | FEB | 15 12 0 | 15 20 13 |
| 30 2 20 | MAR | 19 9 34 | 19 14 25 | 29 19 47 | MAR | 16 0 44 | 16 12 20 |
| | APRIL | 17 22 18 | 17 21 48 | | APRIL | 14 13 28 | 15 1 45 |
| | MAY. | 17 11 2 | 17 5 2 | | MAY . | 14 2 12 | 14 12 30 |
| | June . | 15 23 46 | 15 13 14 | | June . | 12 14 56 | 12 21 13 |
| | JULY. | (15 12 30 | 14 23 28 | | JULY. | 12 3 40 | 12 4 57 |
| | 0 | 30 6 52 | 30 12 7 | | Aug. | 10 16 21 | 10 12 44 |
| | Aug | 14 1 14 | 13 12 28 | | SEPT | 9 5 8 | 8 21 28 |
| | SEPT. | 12.13 58 | 12 4 26 | | Oct | 8 17 52 | 8 7 48 |
| | Oct | 12 2 42 | 11 22 43 | | Nov. | 7 6 86 | 6 20 8 |
| | Nov. | 10 15 26 | 10 18 2 | | DEC. | 6 19 20 | 6 10 32 |
| | DEC. | 10 10 20 | 10 12 46 | | 101110 | 0 13 20 | 0 10 02 |
| | DEC | 10 110 | 10 12 10 | | _ | | - 0.41 |
| 895. | Jan | (8 16 54 | 9 5 28 | 892. | JAN | 5 8 4 | 5 2 41 |
| Δ. | 0 | 23 11 16 | 23 5 15 | | FEB | 3 20 48 | 3 19 56 |
| | FEB | 7 5 38 | 7 19 21 | 30 1 36 | MAR | 5 9 33 | 5 13 20 |
| 30 8 9 | MAR. | 8 18 23 | 9 6 20 | | APRIL | 3 22 17 | 4 5 45 |
| | APRIL | 7 7 7 | 7 14 54 | | MAY . | 3 11 1 | 3 20 24 |
| | MAY. | 6 19 51 | 6 21 58 | | 0 | 18 5 23 | 17 21 27 |
| | June . | 5 8 83 | 5 4 38 | | June . | 1 23 45 | 2 8 54 |
| | July . | (4 21 19 | 4 11 57 | | July . | f 1 12 29 | 1 19 29 |
| | 0 | 19 15 41 | 19 21 5 | İ | 0022 1 | ₹81 1 13 | 31 4 51 |
| | Aug. | 3 10 3 | 2 21 3 | | Aug | 29 13 57 | 29 13 54 |
| | SEPT | 1 22 47 | 1 8 47 | | SEPT | 28 2 41 | 27 28 20 |
| 1 | | (11131 | (30 23 36 | } | Oct | 27 15 25 | 27 9 39 |
| 1 | Oct | 31 0 15 | 30 17 13 | | 0 | §11 9 47 | 11 15 15 |
| | Nov. | 29 12 59 | 29 12 32 | | Nov | 26 4 9 | 25 21 8 |
| | DEC | 29 1 43 | 29 7 57 | | DEC | 25 16 58 | 25 9 45 |
| | 0 | ſ12 20 5 | 12 18 10 | 891. | Jan | 24 5 37 | 23 23 34 |
| 894. | JAN | 27 14 27 | 28 1 49 | С. | FEB | 22 18 21 | 22 14 26 |
| G. | FEB | 26 3 11 | 26 16 58 | 30 7 24 | MAR | 24 7 6 | 24 6 6 |
| 30 13 58 | MAR. | 27 15 56 | 28 4 3 | | APRIL | 22 19 50 | 22 21 57 |
| | APRIL | 26 4 40 | 26 14 24 | | 0 | 5 7 14 12 | 7 13 28 |
| | MAY . | 25 17 24 | 25 21 56 | | MAY . | 22 8 34 | 22 13 18 |
| | June . | 24 6 8 | 24 4 45 | | JUNE. | 20 21 18 | 21 3 32 |
| | 0 | 9 0 30 | 8 23 18 | | July . | 20 10 2 | 20 16 22 |
| | JULY. | 23 18 52 | 23 11 56 | | Aug | 18 22 46 | 19 4 0 |
| | Aug | 22 7 36 | 21 20 32 | | SEPT | 17 11 30 | 17 14 54 |
| | SEPT | 20 20 20 | 20 7 20 | | Ост | ∫17 0 14 | 17 1 34 |
| | Ост | 20 9 4 | 19 20 50 | | 0 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 31 14 38 |
| | Nov | 18 21 48 | 18 13 1 | | Nov | 15 12 58 | 15 12 16 |
| | DEC | 18 10 32 | 18 7 11 | | DEC | 15 1 42 | 14 23 11 |
| 1 | 1 | 1 | 1 | II. | | | |

| Mean Verual Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | Frue New Moon. Fall Ecl.) |
|---------------------------------|---|---|---|---|--|--|---|
| 889. 889. A.G. 20 19 2 | Arril | 12 | 20 21 35 19 5 42 | B.C. 887. E. March. d. h. m. 30 6 39 833. D. 30 12 28 885. C.B. 29 18 17 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT OCT NOV DEC | \$ 18 20 23 12 42 10 7 4 8 19 48 8 8 32 6 21 16 6 10 0 { 4 22 44 19 17 6 3 11 28 3 0 12 1 12 56 { 1 1 40 30 14 24 29 3 8 27 15 52 29 4 87 27 17 21 27 6 5 25 18 49 25 7 33 23 20 17 22 9 1 21 21 45 20 10 29 19 23 13 \$ 18 11 57 17 0 41 17 13 25 16 2 9 | 18 21 8 17 13 34 18 8 6 16 13 40 |
| | MAY JUNE JULY AUG. O SEPT. OCT. Nov. DEC. | . 17 12 28 . 17 1 12 . 15 18 56 30 8 18 . 14 2 40 . 13 15 24 | 17 1 15 16 14 17 3 15 5 53 3 30 5 32 13 23 25 4 13 17 50 3 12 11 48 | | JUNE JULY AUG. SEPT. OCT. Nov. DEC. | . 13 16 21 12 5 5 . 10 17 49 . 10 6 39 | 18 12 3 11 19 58 10 5 42 3 9 17 58 7 8 8 46 1 8 1 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| B.C. 884. | | d. h. m. | d. h. m. | B.C. 881. | | d. h. m. | d. h. m. |
| March. | JAN | 6 20 45 | 6 20 31 | E.D. | JAN | 4 11 55 | 495 |
| d. h. m. | FEB | 5 9 29 | 5 15 1 | March, $d. h. m.$ | FEB. : | 3 0 39 | 2 20 9 |
| 30 O 6 | MAR | 6 22 14 | 7 8 10 | 29 17 32 | Mar | 3 13 24 | 3 7 44 |
| | APRIL | 5.10 58 | 5 22 55 | | APRIL | (2 2 8 | 1 20 13 |
| | MAY . | 4 23 42 | 5 10 57 | | 0 | 16 20 30 | 17 6 23 |
| | June . | (3 12 26 | 3 20 39 | | | (1 14 52 | 1 9 55 |
| | 0 | 18 6 48 | 17 20 42 | | MAY . | 31 3 36 | 31 0 44 |
| | JULY. | 3. 1 10 | 3 4 53 | | JUNE . | 29 16 20 | 29 16 15 |
| | | (1.13 54 | 1 12 42 | | JULY. | 29 5 4 | 29 7 46 |
| | Aug | (31 2 38 | 30 21 3 | | Aug. | 27 17 48 | 27 22 44 |
| | SEPT | 29 15 22 | 29 6 40 | | SEPT | 26 6 32 | 26 12 46 |
| | Oct. | 29 4 6 | 28 18 3 | | 0 | (11 0 54 | 10 12 15 |
| | Nov. | 27 16 50 | 27 7 22 | | Ocr | 25 19 16 | 26 1 46 |
| | 0 | (12 11 12 | 12 22 7 | | Nov. | 24 8 0 | 24 13 46 |
| | DEC | 27 5 34 | 26 22 32 | | DEC. | 23 20 44 | 24 0 51 |
| | | | | | DEC | 20 20 11 | 21 0 01 |
| 111 | | | | 880. | JAN | 22 9 28 | 22 11 2 |
| 883. | JAN | 25 18 18 | 25 15 6 | c. | FEB | 20 22 12 | 20 20 36 |
| G. | FEB | 24 7 2 | 24 8 17 | 29 23 21 | MAR. | 22 10 57 | 22 6 3 |
| 20 5 55 | MAR | 25 19 47 | 26 1 8 | | 0 | 6 5 19 | 6 1S 9 |
| | APRIL | 24 8 31 | 24 16 41 | | APRIL | 20 23 41 | 20 16 8 |
| . 119 | MAY . | 23 21 15 | 24 6 18 | l i | MAY. | 20 12 25 | 20 3 40 |
| | 0 | ∫ 7 15 37 | 7 5 27 | | JUNE . | 19 1 9 | 18 17 4 |
| | June. | (22 9 59 | 22 17 56 | | JULY. | 18 13 53 | 18 8 22 |
| | July. | 21 22 43 | 22 4 2 | | Aug | 17 2 37 | 17 1 0 |
| | Aug | 20 11 27 | 20 13 22 | | SEPT. | (15 15 21 | 15 18 5 |
| | SEPT. | 19 O 11 | 18 22 46 | | 0 | 80 9 43 | 29 22 51 |
| | Ocr | 18 12 55 | 18 8 46 | | Ocr | 15 4 5 | 15 10 37 |
| | Nov. | 17 1 39 | 16 19 41 | | Nov. | 13 16 49 | 14 1 52 |
| | Dec | 16 14 23 | 16 7 30 | | DEC. | 13 5 33 | 13 15 22 |
| | | | | | 220. 1 | 20 0 00 | 10 10 22 |
| 882. | JAN. | 15 3 7 | 14 20 39 | 879. | JAN | 11 18 17 | 12 3 0 |
| F. | FEB | 13 15 51 | 13 10 43 | в. | FEB | 10 7 1 | 10 12 54 |
| 30 11 44 | MAR. | 15 4 35 | 15 1 45 | 30 5 10 | MAR | 11 19 45 | 11 21 28 |
| | APRIL | 13 17 19 | 13 17 22 | | APRIL | 10 8 29 | 10 5 23 |
| | MAY . | 13 6 3 | 13 8 57 | | MAY . | 9 21 13 | 9 13 36 |
| | JUNE. | 11 18 47 | 11 23 52 | | JUNE . | 8 9 57 | 7 23 9 |
| | JULY . | 11 7 31 | 11 13 35 | | JULY. | 7 22 41 | 7 10 53 |
| | Aug | 9 20 15 | 10 2 3 | | Aug | 6 11 25 | 6 1 16 |
| | SEPT | 8 8 59 | 8 13 32 | | SEPT | (509 | 4 18 5 |
| | Oct | 7 21 43 | 8 0 30 | | 0 | (19 18 31 | 19 14 18 |
| | Nov | 6 10 27 | 6 11 21 | | Oct | 4 12 53 | 4 12 25 |
| | DEC | 5 23 11 | 5 22 11 | | Nov | 3 1 37 | 3 6 56 |
| | | | | | DEC | 2 14 21 | 3 0 17 |
| l | 1 | l . | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Full Ecl.) |
|----------------------------|--------|---|-----------------------------|----------------------------|------------|------------------------------------|----------------------------|
| | | d. h. m. | d. h. m. | B.C. 875. | | d. h. m. | d. h. m. |
| B.C. 878. A. | JAN | $ \begin{cases} 1 & 3 & 5 \\ 30 & 15 & 49 \end{cases} $ | 1 15 27 31 4 0 | | JAN Feb | 27 6 59 25 19 43 | 27 9 38 26 3 26 |
| March. | FEB | | | 30 4 25 | Mar | 27 8 28 | 27 19 23 |
| d. h. m. | | (1 4 34 | 1 14 5 | | APRIL | 25 21 12 | 26 8 45 |
| 30 10 59 | MAR | 30 17 18 | 30 22 14 | | May . | 25 9 56 | 25 19 36 |
| | APRIL | 29 6 2 | 29 5 20 | | June. | 23 22 40 | 24 4 34 |
| | MAY . | 28 18 46 | 28 12 24 | | JULY. | 23 11 24 | 23 12 33 |
| | JUNE . | 27 7 30 | 26 20 30 | | Aug | 22 0 8 | 21 20 49 |
| | JULY . | 26 20 14 | 26 6 45 | | SEPT | 20 12 52 | 20 5 54 |
| | Aug | 25 8 58 | 24 19 53 | | Ocr | 20 1 36 | 19 16 28 |
| | SEPT | 23 21 42 | 23 12 2 | | Nov | 18 14 20 | 18 4 48 17 18 57 |
| | Oct | 23 10 26 | 23 6 33 | | DEC | 18 8 4 | 11 10 01 |
| | Nov. | 21 23 10 | 22 2 2 | | | | 10.10.00 |
| | DEC | 21 11 54 | 21 20 52 | 874. | JAN | 16 15 48 | 16 10 39 |
| 877. | JAN | 20 0 33 | 20 13 52 | C. | FEB | 15 4 32 | 15 3 22 |
| G.F. | 0 | (3190 | 3 13 21 | 30 10 14 | MAR | 16 17 16 | 16 20 17 |
| | FEB | 18 13 22 | 19 3 17 | | APRIL | 15 6 0 | 15 12 26 |
| 29 16 48 | MAR. | 19 2 7 | 19 14 5 | , | MAY . | {14 18 44 | 15 3 4 |
| | APRIL | 17 14 51 | 17 22 28 | | _ 0 | 29 13 6 | 29 4 41 13 15 46 |
| | MAY . | 17 3 35 | 17 5 26 | | June . | 13 7 28 | 13 2 46 |
| | JUNE . | 15 16 19 | 15 12 5 | <u> </u> | JULY . | 12 20 12 | 11 12 38 |
| | JULY . | (15 5 3 | 14 19 31 | | Aug | 0.01.40 | 9 22 9 |
| | 0 | 29 23 25 | 30 4 10 | | SEPT. | 9 10 24 | 9 8 0 |
| | Aug. | 13 17 47 | 13 4 45 | | Oct. | | 7 18 33 |
| | SEPT | 12 6 31 | 11 16 39 | | Nov. | 22 17 30 | 22 23 19 |
| | Ocr | 11 19 15 | 11 7 36 | Ì | DEC. | 7 11 52 | 7 5 57 |
| | Nov. | 10 7 59 | 10 1 15 | | DEG. | | |
| 1 | DEC. | 9 20 43 | 9 20 30 | 070 | - | 6 0 36 | 5 18 15 |
| 876. | JAN. | (8 9 27 | 8 15 46 | 873. B.A. | JAN. | | 4 7 81 |
| E. | 0 | 23 3 49 | 23 2 45 | 29 16 3 | FEB. | | 4 21 48 |
| | FEB. | 6 22 11 | 7 9 27 | 29 10 3 | APRIL | 0 14 40 | 3 12 55 |
| 29 22 37 | MAR. | 8 10 55 | 9 0 27 | | MAY | 60 000 | 1 |
| | APRIL | 6 23 39 | 7 12 24 | | 0 | 17 21 55 | 1 |
| | MAY | 6 12 23 | 6 21 43 | | JUNE | 1 10 17 | 1 19 46 |
| | JUNE | . 517 | 5 5 19 | | 00112 | (151 | 1 10 17 |
| | July | 12 | |][| Jura | 130 17 45 | 30 23 37 |
| | 0 | 19 8 13 | 1 | | Aug. | . 29 6 29 | 29 12 14 |
| 1 | Aug. | 1 | 2 19 45 | 1 | SEPT. | 0-40-40 | 27 23 17 |
| Ì | Sept. | 1 | 1100 15 99 | | Ост. | . 27 7 57 | 27 10 21 |
| | Oct. | 1 4 8 | | li . | 0 | f11 2 19 | |
| 1 | 1 | 30 16 47 | 1 | | Nov. | (| 1 |
| | Nov. | | 1 | 11 | DEC. | . 25 9 25 | 25 8 3 |
| | DEC. | . 28 18 15 | 23.10 | | 1 | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|--|---|--|--|--|--|
| B.C. 872. G. March. d. h. m. 29 21 52 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 23 22 9 22 10 53 23 23 88 22 12 22 { 7 6 44 {22 1 6 20 13 50 20 2 34 18 15 18 17 4 2 {16 16 46 31 11 8 15 5 30 14 18 14 | d. h. m. 23 18 48 22 5 48 23 17 30 22 6 19 7 13 59 21 20 27 20 11 42 20 3 27 18 19 0 17 9 50 16 23 37 31 0 13 15 12 18 14 23 53 | B.C. 869. p.c. March. d. h. m. 29 15 18 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | cl. h. m. 21 13 19 20 2 3 { 5 20 25 { 20 14 48 19 3 82 18 16 16 17 5 0 16 17 44 { 15 6 28 30 0 50 13 19 12 18 7 56 11 20 40 11 9 24 | d. h. m. 22 2 14 20 13 28 5 18 14 20 22 16 19 5 89 18 12 30 16 19 55 16 4 59 14 16 40 30 5 0 13 7 25 13 0 57 11 20 15 11 15 89 |
| 871. F. 30 3 41 | JAN FEB MAR APRIL MAY JUNE . JULY . AUG SEPT OCT Nov DEC | 18 6 58 11 19 42 18 8 26 11 21 10 11 9 54 9 22 33 9 11 22 8 0 6 6 12 50 6 1 34 4 14 18 4 3 2 | 18 10 24 11 20 2 18 5 12 11 14 37 11 1 9 9 13 27 9 3 50 7 20 0 6 13 18 6 6 24 4 22 36 4 13 10 | 868. B. 29 21 7 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT | 9 22 8 8 10 52 23 5 14 9 28 36 8 12 20 8 1 4 6 18 48 6 2 32 4 15 16 3 4 0 2 16 44 1 5 28 80 18 12 | 10 9 82 9 0 45 22 28 85 10 12 58 8 22 17 8 5 47 6 12 28 5 19 24 4 8 42 2 14 16 { 2 8 46 81 20 10 |
| 870. E- 30 9 30 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 2 15 46 1 4 30 (2 17 15 17 11 37 (1 5 59 80 18 43 80 7 27 28 20 11 28 8 55 26 21 39 (10 16 1 (25 10 23) 24 23 7 23 11 51 23 0 35 | 3 1 45 1 12 22 2 21 21 17 17 54 1 5 18 30 13 5 29 21 42 28 8 12 27 21 16 26 13 2 10 13 50 25 6 55 25 1 42 23 19 57 23 12 22 | 867. A. 30 2 56 | O JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 30 6 56 {14 1 18 {28 19 40 27 8 24 28 21 9 27 9 53 26 22 37 25 11 21 25 0 5 23 12 49 22 1 33 21 14 17 20 3 1 19 15 45 | 30 10 8 14 1 58 29 4 41 27 21 2 29 10 26 27 20 58 27 5 19 25 12 84 24 19 48 28 8 59 21 18 59 21 2 19 19 17 9 19 10 5 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Fuli Ecl.) |
|----------------------------|--------|-------------------|-----------------------------|----------------------------|-----------|------------------------------------|-----------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 863. | | d. h. m. | d. h. m. |
| 866. | 0 | (3107 | 3 17 55 | c. March. | JAN | 14 19 39 | 14 17 45 |
| G. | JAN | 18 4 29 | 18 4 14 | d. $h.$ $m.$ | FEB | 13 8 23 | 13 4 19 |
| d. h . m . | FEB | 16 17 13 | 16 22 23 | 30 2 11 | MAR | 14 21 8 | 14 15 19 |
| 30 8 45 | MAR | 18 5 58 | 18 15 14 | | APRIL | ∫13 9 52 | 13 3 15 |
| | APRIL | 16 18 42 | 17 5 50 | | Ο, | 28 4 14 | 28 13 47 |
| | MAY . | 16 7 26 | 16 17 57 | | MAY . | 12 22 36 | 12 16 32 |
| | June . | ζ14 20 1 0 | 15 3 52 | | June. | 11 11 20 | 11 7 12 |
| 9 | 0 | 29 14 32 | 29 3 30 | | JULY. | 11 0 4 | 10 22 52 |
| | July. | 14 8 54 | 14 12 26 | | Aug | 9 12 48 | 9 14 50 |
| | Aug | 12 21 33 | 12 20 38 | | SEPT | 8 1 32 | 8 6 22 |
| | SEPT | 11 10 22 | 11 5 22 | | Ост. | 7.14 16 | 7 21 0 |
| | Oct | 10 23 6 | 10 15 18 | | 0 | 22 8 38 | 21 20 32 |
| | Nov | 9 11 50 | 9 2 48 | | Nov | 6 3 0 | 6 10 27 |
| | DEC | 5 9 0 31 | 8 15 58 | | DEC | 5 15 44 | 5 22 41 |
| | 0 | 23 18 56 | 24 6 40 | 862. | JAN. | 4 4 28 | 4 9 40 |
| 1 | | | | В. | FEB. | 2 17 12 | 2 19 33 |
| 865. | JAN | 7 13 18 | 7 6 43 | 30 8 0 | MAR. | 4 5 56 | 4 4 39 |
| F.E. | FEB | 6 2 2 | 5 22 45 | | APRIL | (2 18 40 | 2 13 37 |
| 29 14 81 | MAR | 6 14 46 | 6 15 25 | 1 | 0 | 17 13 2 | 18 1 14 |
| | APRIL | 5 3 30 | 5 7 52 | } | | (2 7 24 | 1 23 14 |
| | MAY . | 4 16 14 | 4 23 16 | | MAY . | \\\ 31 20 8 | 31 10 26 |
| | JUNE . | 3 4 58 | 3 13 2 | | JUNE . | 30 8 52 | 29 28 44 |
| | 0 | 17 23 20 | 17 12 39 | | JULY . | 29 21 36 | 29 15 10 |
| 1 | JULY . | 2 17 42 | 3 1 1 | | Aug | 28 10 20 | 28 8 9 |
| | A | 1 6 26 | 1 11 35 | 1 | SEPT | 26 23 4 | 27 1 43 |
| | Aug | (30 19 10 | 30 21 26 | | 0 | ſ11 17 26 | 11 7 24 |
| | SEPT. | . 29 7 54 | 29 7 17 | | Ocr | 26 11 48 | |
| | Ocr. | . 28 20 38 | | | Nov. | 25 0 32 | 25 10 24 |
| | Nov. | $. \mid 27 9 23$ | | 1 | DEC | 24 13 16 | 25 0 3 |
| | DEC. | . 26 22 6 | 26 16 21 | 861. | JAN. | 23 2 0 | 23 11 33 |
| | | | 1 | A.G. | FEB. | 21 14 44 | 1 |
| 864. | JAN. | . 25 10 50 | 25 4 53 | 29 13 49 | - · · · · | 22 0 00 | 1 |
| ъ. | FEB. | . 28 23 39 | 1 23 18 20 | 20 10 10 | 0 | (5 21 51 | 6 5 20 |
| 29 20 28 | MAR. | . 25 12 19 | 25 8 47 | | APRIL | 1300 40 46 | |
| | APRII | 24 1 | 3 23 23 58 | | MAY | 1 | |
| | MAY | . 23 13 4 | 7 23 15 24 | | JUNE | 40 47 44 | 18 6 12 |
| | June | . 22 2 3 | 1 22 6 23 | | July | 1 | 17 17 55 |
| | July | . 21 15 1 | 1 | | Aug. | 1 -0 -0 -0 | 16 8 25 |
| | Aug. | . 20 3 5 | | | SEPT. | | 3 15 1 30 |
| | SEPT. | . 18 16 4 | | 11 | 0 | 30 2 1 | 5 29 22 54 |
| | Ocr. | . 18 5 2 | | 11 | Ocr. | . 14 20 37 | |
| | Nov. | . 16 18 1 | | 11 | Nov. | . 13 9 2 | |
| | DEC. | . 16 6 5 | 5 16 7 8 | • | DEC. | . 12 22 | 13 8 36 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|----------------------------|--|---|--|
| B.C. 860. F. March. d. h. m. 29 19 38 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov | | | | JAN O FEB MAR APRIL MAY . JUNE . JULY . AUG | (O Full Ecl.) d. h. m. { 9 1 59 23 20 21 7 14 43 8 3 27 6 16 11 6 4 55 4 17 39 4 6 23 2 19 7 1 7 51 30 20 35 | d. h. m. 8 23 1 24 3 26 7 17 7 8 10 33 7 2 16 6 15 37 5 2 39 4 11 57 2 20 25 1 5 0 30 14 27 |
| | DEC | $ \begin{cases} 2 & 6 & 53 \\ 31 & 19 & 37 \end{cases} $ | 2 10 0 | | OCT Nov DEC | 30 9 19 28 22 3 28 10 47 | 30 1 14 28 13 32 28 3 20 |
| 859. E. | JAN O FEB | $ \begin{cases} 30 & 8 & 21 \\ 14 & 2 & 43 \\ 28 & 21 & 6 \end{cases} $ | 1 4 50 30 21 27 13 21 25 | 856. A. 29 18 53 | JAN FEB MAR | 26 28 31 25 12 15 27 1 0 | 26 18 31 25 10 40 27 8 7 |
| 30 1 27 | MAR APRIL. MAY. JUNE. JULY. O AUG SEPT OCT NOV DEC | 30 9 50 28 22 34 28 11 18 27 0 2 26 12 46 {10 7 8 25 1 30 23 14 14 23 2 58 21 15 42 21 4 26 | \$\)\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(| , | APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | 25 13 44 25 2 28 (8 20 50 (23 15 12 23 3 56 21 16 40 20 5 24 19 18 8 18 6 52 (3 1 14 (17 19 36 | 25 19 3 25 9 41 8 11 58 23 22 41 23 10 8 21 20 31 20 6 33 19 16 47 18 3 30 3 7 24 17 14 48 |
| 858. D. | JAN O FEB | 19 17 10 3 11 32 18 5 54 | 19 23 23 3 11 12 18 16 55 | 855. G. 30 0 42 | JAN FEB MAR | 16 8 20 14 21 4 16 9 49 | 16 2 42 14 15 24 16 5 3 |
| 30 716 | MAR APRIL MAY . JUNE . O AUG SEPT OCT Nov DEC | 19 18 39 18 7 28 17 20 7 16 8 51 {15 21 35 30 15 57 14 10 19 12 23 3 12 11 47 11 0 81 10 18 15 | 20 7 45 18 19 38 18 4 59 16 12 44 15 19 56 30 12 45 14 3 48 12 12 52 12 0 6 10 13 40 10 5 31 | , | APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O DEC | $ \begin{cases} 14 & 22 & 33 \\ 14 & 11 & 17 \\ 29 & 5 & 39 \\ 13 & 0 & 1 \\ 12 & 12 & 45 \\ 11 & 1 & 29 \\ 9 & 14 & 13 \\ 9 & 2 & 57 \\ 7 & 15 & 41 \\ 22 & 10 & 3 \\ 7 & 4 & 25 \end{cases} $ | 14 19 39 14 10 54 29 4 22 13 2 16 12 17 5 11 6 58 9 19 48 9 7 48 7 19 14 22 6 33 7 6 14 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Fuli Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| 854. | т | 5 17 9 | 5 16 51 | B.C. | | (2819 | 2 20 40 |
| March. | JAN. | 4 5 58 | 4 3 12 | 851. | JAN | 31 21 3 | ••• |
| d. h. m. 30 6 31 | FEB MAR | 5 18 37 | 5 13 38 | В. | FEB | | 1 10 27 |
| 30 0 31 | APRIL | 4 7 21 | 4 0 44 | March. d , h , m . | | (2 9 47 | 2 21 24 |
| | MAY . | (3 20 5 | 3 13 5 | 29 23 57 | Mar.O | 17 4 9 | 17 1 20 |
| 1 | 0 | 18 14 27 | 18 21 21 | | | (31 22 31 | (162 |
| | June . | 2 8 49 | 2 2 57 | | APRIL | 30 11 15 | 30 13 11 |
| 1 | JUME. | (1 21 33 | 1 18 14 | | MAY. | 29 23 59 | 29 19 54 |
| 1 | July . | 81 10 17 | 31 10 17 | | June. | 28 12 43 | 28 3 17 |
| | Aug | 29 23 1 | 30 2 21 | | JULY. | 28 1 27 | 27 12 25 |
| - | SEPT. | 28 11 45 | 28 17 48 | | Aug | 26 14 11 | 26 0.13 |
| | Ocr. | 28 0 29 | 28 8 7 | , | 0. | (10 8 33 | 10 13 6 |
| 1 | 0 | (11 18 51 | 11 8 30 | | SEPT | 25 2 55 | 24 15 7 |
| | Nov. | 26 13 13 | 26 21 8 | | Ocr | 24 15 39 | 24 8 49 |
| | DEC. | 26 1 57 | 26 8 44 | | Nov | 23 4 23 | 23 4 12 |
| | 220 | | | " | DEC | 22 17 7 | 22 23 37 |
| 853. | JAN | 24 14 41 | 24 19 1 | 850. | Jan | 21 5 51 | 21 17 26 |
| E.D. | FEB | 23 3 25 | 23 4 15 | A. | FEB. | 19 18 35 | 20 8 31 |
| 29 12 20 | MAR. | 23 16 10 | 23 12 58 | | 0 | 6 12 57 | 6 7 14 |
| 20 12 20 | APRIL | 22 4 54 | 21 21 56 | 30 5 46 | MAR. | 21 7 20 | 21 20 31 |
| | MAY. | 21 17 38 | 21 8 4 | 00 0 10 | APRIL | 19 20 4 | 20 5 46 |
| | June . | 20 6 22 | 19 20 10 | | MAY. | 19 8 48 | 19 13 13 |
| | JULY. | 19 19 6 | 19 10 36 | | June. | 17 21 32 | 17 19 56 |
| | Aug | 18 7 50 | 18 3 2 | | JULY. | 17 10 16 | 17 3 2 |
| | SEPT | 16 20 34 | 16 20 40 | | Aug | 15 23 0 | 15 11 32 |
| | Oct | 16 9 18 | 16 14 22 | | SEPT | 14 11 44 | 13 22 19 |
| | Nov | 14 22 2 | 15 7 0 | | Ocr | 14 0 28 | 13 11 56 |
| | DEC | 14 10 46 | 14 21 48 | | Nov | 12 13 12 | 12 4 1 9 |
| | | | | | Dec | 12 1 56 | 11 22 4 6 |
| 852. | JAN | 12 23 30 | 13 10 20 | 849. | JAN | (10 14 40 | 10 17 55 |
| c. | FEB | 11 12 14 | 11 20 44 | G.F. | 0 | 25 9 2 | 25 10 34 |
| 29 18 9 | Mar | ſ13 0 59 | 13 5 23 | | FEB | 9 3 24 | 9 12 12 |
| | 0 | 27 19 21 | 28 0 44 | 29 11 35 | MAR | 9 16 9 | 10 4 21 |
| | APRIL | 11 13 43 | 11 12 59 | | APRIL | 8 4 53 | 8 17 39 |
| | MAY . | 11 2 27 | 10 20 26 | | MAY . | 7 17 37 | 8 4 10 |
| | JUNE . | 9 15 11 | 9 4 52 | | JUNE. | 6 6 21 | 6 12 40 |
| | July. | 9 3 55 | 8 15 16 | | JULY. | 5 19 5 | 5 20 7 |
| | Aug | 7 16 39 | 7 4 24 | | Aug | 4 7 49 | 4 3 39 |
| | SEPT | $\int 6 523$ | 5 20 21 | | SEPT | 2 20 33 | 2 12 11 |
| | 0 | 20 23 45 | 20 22 18 | | 00= | 2 9 17 | 1 22 26 |
| | Oct | 5 18 7 | 5 14 33 | | Ост | 31 22 1 | 31 10 52 |
| | | | | 1 . | 1 | 1 | 1 |
| | Nov Dec | 4 6 51 3 19 35 | 4 9 40 | | Nov | 30 10 45 | 30 1 33 29 18 9 |

| | 1 | | | | | | |
|--------------------|--------|------------------------|----------------|----------------|---------|---|----------------|
| Mean | Month | | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
| Vernal Equinox. | Month. | Moon. (O Full Ecl.) | | Equinox. | MOHINE. | (O Full Ecl.) | |
| | | | | | | | |
| 1 | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| B.C. | | | 14 001 | 845. B.A. | T | 26 3 22 | 26 2 17 |
| 848. E. | -0 | 13 17 51 | 14 2 34 | March. | JAN. | 24 16 6 | 24 12 22 |
| March. | Jan. | 128 12 13 | 28 11 51 | d. h. m. | FEB | 25 4 51 | 24 22 47 |
| d. h. m. | FEB | 27 0 57 | 27 5 34 | 29 10 50 | MAR | 23 17 35 | 28 10 12 |
| 29 17 24 | MAR. | 28 13 41 | 28 22 7 | | APRIL | | 8 21 6 |
| 1 | APRIL | 27 2 25 | 27 12 40 | | 0 | 8 11 57 | 22 23 8 |
| | MAY. | 26 15 9 | 27 0 53 | | MAY. | (23 6 19 | |
| | JUNE. | 25 3 53 | 25 11 4 | | June. | 21 19 3 | |
| | _ 0 | 9 22 15 | 9 10 24 | | JULY. | 21 7 47 | 21 5 34 |
| | JULY. | 24 16 37 | 24 20 2 | | Aug | 19 20 31 | 19 21 57 |
| | Aug | 23 5 21 | 23 4 41 | | SEPT | 18 9 15 | 18 14 4 |
| | SEPT | 21 18 5 | 21 13 51 | | Oct | 17 21 59 | 18 5 17 |
| | Oct | 21 6 49 | 21 0 3 | | 0 | 1 16 21 | 1 4 54 |
| | Nov | 19 19 38 | 19 11 36 | | Nov | (16 10 43 | 16 19 9 |
| | DEC | 19 8 17 | 19 0 32 | | DEC | 15 23 27 | 16 7 30 |
| | | | | 844. | JAN | 14 12 11 | 14 18 22 |
| | 0 | (3 2 39 | 3 13 33 | G. | FEB. | 13 0 55 | 13 3 55 |
| 847. | JAN | 17 21 1 | 17 14 49 | 29 16 39 | MAR. | 14 13 40 | 14 12 86 |
| D. | FEB | 16 9 45 | 16 6 16 | -0 20 00 | APRIL | (13 2 24 | 12 21 5 |
| 29 23 13 | MAR | 17 22 30 | 17 22 24 | | 0 | 27 20 46 | 28 8 12 |
| 1 | APRIL | 16 11 14 | 16 14 30 | | MAY. | 12 15 8 | 12 6 21 |
| Į. | MAY . | 15 23 58 | 16 5 50 | İ | JUNE . | 11 3 52 | 10 17 16 |
| { | JUNE . | (14 12 42 | 14 19 46 | | JULY . | 10 16 36 | 10 6 81 |
| | 0 | 29 7 4 | 28 19 55 | | Aug. | 9 5 20 | 8 22 6 |
| | JULY . | 14 1 26 | 14 8 9 | | SEPT. | 7 18 4 | 7 15 26 |
| | Aug | 12 14 10 | 12 19 15 | | OCT. | 7 6 48 | 7 9 9 |
| | SEPT | 11 2 54 | 11 5 40 | | 0 | 22 1 10 | 21 16 5 |
| 1 | Ocr | 10 15 3 8 | 10 15 58 | | Nov. | 5 19 32 | 6 2 59 |
| 1 | Nov | 9 4 22 | 9 2 33 | 1 | DEC. | 5 8 16 | 5 18 56 |
| | DEC | 8 17 6 | 8 13 31 | | 225. 1 | | |
| 1 | | | | 843. | JAN | 3 21 0 | 4 8 38 |
| 846. | JAN | 7 5 50 | 7 0 58 | F. | FEB | 2 9 44 | 2 19 59 |
| c. | FEB. | 5 18 34 | 5 12 59 | 29 22 28 | MAR | 3 22 28 | 4 5 16 |
| 30 5 2 | MAR. | 1 | 7 1 49 | | APRIL | $\begin{cases} 2 & 11 & 12 \end{cases}$ | 1 |
| | APRIL | | 5 15 41 | | 0 | (17 5 34 | |
| 1 | MAY | | 5 6 29 | | MAY . | $\int 1 23 56$ | 1 |
| | JUNE | 1 | 3 21 51 | | _ | (31 12 40 | l . |
| | JULY | 1 | 3 13 6 | | June . | 1 <u>-</u> | |
| | 1. | (1 22 58 | | | JULY . | | |
| i | Aug. | 81 11 42 | | | Aug. | | |
| 1 | SEPT. | | 30 6 2 | | SEPT. | | |
| | Ост. | . 29 13 10 | 1 | | 0 | ∫11 9 58 | |
| | Nov. | | 1 | | Ост. | . \26 4 2 | |
| | DEC. | . 27 14 38 | 1 | | Nov. | 1 | |
| | | | | | DEC. | $. \mid 24 \ 5 \ 48$ | 3 24 16 49 |
| | | <u> </u> | 1 | II . | 1 | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|--|----------------------------|--------|------------------------------------|------------------------------|
| B.C. 842. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| E. | JAN | 22 18 32 | 23 8 0 | 839. | JAN | 19 9 42 | 19 6 48 |
| March. d. h. m. | FEB | 21 7 16 | 21 20 15 | _ A. | 0 | (3 4 4 | 3 11 53 |
| 20 4 17 | MAR | 22 20 1 | 23 5 51 | March. $d. h. m.$ | FEB | 17 22 26 | 18 0 24 |
| | APRIL | 21 8 45 | 21 13 31 | 29 21 43 | MAR. | 19 11 11 | 19 17 30 |
| | MAY. | 20 21 29 | 20 20 15 | | APRIL | 17 23 55 | 18 9 2 |
| | JUNE . | 19 10 13 | 19 3 9 | | MAY . | 17 12 39 | 17 22 27 |
| | JULY . | 18 22 57 | 18 11 19 | | June . | 16 1 23 | 16 9 44 |
| | Aug | 17 11 41 | 16 21 45 | | JULY. | (15 14 7 | 15 19 23 |
| | SEPT | 16 0 25 | 15 11 11 | | 0 | 30 8 29 | 29 20 49 |
| | Oct | 15 13 9 | 15 3 37 | | Aug | 14 2 51 | 14 4 19 |
| | Nov | 14 1 53 | 13 22 23 | | SEPT | 12 15 35 | 12 13 21 |
| | DEC | 13 14 37 | 13 17 59 | | Oct | 12 4 19 | 11 23 10 |
| | | | , | | Nov | 10 17 3 | 10 10 4 |
| 841. | JAN | 12 3 21 | 12 12 44 | | DEC | 10 5 47 | 9 22 15 |
| D.C. | FEB. | (10 16 5 | 11 5 13 | 838. | JAN. | 8 18 31 | 8 11 41 |
| | 0 | 25 10 27 | 25 5 20 | G. | FEB. | 7 7 15 | 7 2 18 |
| 29 10 6 | MAR. | 11 4 50 | 11 18 41 | 30 3 32 | MAR. | 8 20 0 | 8 17 52 |
| 20 20 0 | APRIL | 9 17 34 | 10 7 9 | 30 3 32 | APRIL | 7 8 44 | 7 9 50 |
| | MAY . | 9 6 18 | 9 13 22 | | MAY. | 6 21 28 | 7 1 33 |
| | June . | 7 19 2 | 7 20 19 | | JUNE . | 5 10 12 | 5 16 18 |
| | JULY . | 7 7 46 | 7 3 10 | | O . | 20 4 34 | 19 19 18 |
| | Aug | 5 20 30 | 5 10 58 | | July . | 4 22 56 | 5 5 38 |
| | 0 | 20 14 52 | 20 18 37 | | Aug. | 3 11 40 | 3 17 34 |
| | SEPT | 4 9 14 | 3 20 38 | 1 | SEPT. | 2 0 24 | 2 4 32 |
| | Oct | 3 21 58 | 3 8 53 | | | (1138 | 1 15 6 |
| | Nov | 2 10 42 | 1 23 56 | | OCT | 31 1 52 | 31 1 40 |
| | Dra | ſ 1 23 26 | 1 17 25 | | Nov | 29 14 36 | 29 12 28 |
| | DEC | 31 12 10 | 31 12 16 | | 0 | (14 8 58 | 14 15 26 |
| | | | | | DEC | 29 3 20 | 28 23 34 |
| 840. | JAN | 30 0 54 | 30 7 1 | 027 | Jan. | 27 16 4 | 27 11 3 |
| В. | 0 | (13 19 16 | 13 19 32 | 837. F.E. | FEB. | 26 4 48 | 25 23 8 |
| | FEB | 128 13 38 | | 29 9 21 | MAR. | 26 17 32 | 26 12 11 |
| 00 15 54 | MAR | 30 2 22 | $ \begin{cases} 1 & 0 & 14 \\ 30 & 14 & 54 \end{cases} $ | 20 0 21 | APRIL | 25 6 16 | 25 2 18 |
| 29 15 54 | APRIL | 28 15 6 | 29 2 45 | | MAY. | 24 19 0 | 24 17 22 |
| | MAY . | 28 3 50 | 28 12 12 | | 0 | (8 13 22 | 8 11 48 |
| 1 | June . | | 26 20 10 | 1 | JUNE . | 23 7 44 | 23 8 47 |
| | JULY. | | 26 3 41 | | JULY. | 22 20 28 | 22 23 58 |
| | 0 | (9 23 40 | | 1 | AUG | 21 9 12 | 21 14 24 |
| | Aug. | 13 - 1 - 2 | | | SEPT | 19 21 56 | 20 3 51 |
| | SEPT. | 1 | 22 21 17 | | Ост. | 19 10 40 | 19 16 23 |
| | Oct. | 22 19 30 | | | Nov | 17 23 24 | 18 4 7 |
| | Nov. | | | | 0 | 2 17 46 | 1 - |
| | DEC. | 20 20 58 | | И | DEC | 17 12 8 | 17 15 9 |
| 1 | | | 1 | | b | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (○ Full Ecl.)(| True New Moon. O Full Eel.) |
|--|--|---|--|---|---|---|--|
| B.C. 836. D. March. d. h. m. 29 15 10 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | d. h. m. 16 0 52 14 18 36 16 2 21 14 15 5 {14 3 49 28 22 11 12 16 33 12 5 17 10 18 1 9 6 45 8 19 29 { 7 8 18 22 2 35 6 20 57 | d. h. m. 16 1 82 14 11 27 15 21 21 14 7 55 13 19 51 29 4 41 12 9 81 12 0 50 10 17 14 9 9 51 9 1 52 7 16 41 21 16 52 7 5 56 | B.C. 833. A.d. March. d. h. m. 29 8 86 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | d. h. m. 18 16 2 12 4 46 {12 17 81 27 11 58 11 6 15 10 18 59 9 7 48 8 20 27 7 9 11 { 5 21 55 20 16 17 5 10 89 8 28 28 8 12 7 | d. h. m. 14 4 51 12 18 80 18 5 16 27 8 19 11 18 41 10 20 41 9 8 20 8 10 45 6 20 1 5 7 58 20 21 19 4 28, 1 8 16 48 8 12 10 |
| 835. c. 29 20 59 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 5 9 41 8 22 25 5 11 10 8 28 54 8 12 88 2 1 22 (1 14 6 81 2 50 29 15 34 28 4 18 27 17 2 26 5 46 25 18 80 | 5 17 80 4 8 81 5 12 22 8 20 87 8 5 11 1 15 1 1 8 0 80 17 29 29 10 11 28 4 15 27 22 25 26 15 24 26 6 20 | 832. r. 29 14 25 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov | \begin{array}{cccccccccccccccccccccccccccccccccccc | 2 7 80 1 1 11 2 16 6 16 14 48 { 1 8 58 80 18 9 29 20 86 28 8 27 27 10 45 25 19 81 10 5 59 24 6 81 28 20 18 22 12 81 |
| 834. B. 30 2 47 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | 20 22 54 20 11 38 19 0 22 17 18 6 2 7 28 17 1 50 15 14 34 | 16 22 16 15 17 98 | 831. E. 29 20 14 | DEC JAN O FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 22 9 89 20 22 28 4 16 45 19 11 7 20 28 52 19 12 86 19 1 20 17 14 4 17 2 48 15 15 82 14 4 16 18 17 0 12 5 44 11 18 28 | 22 6 48 21 1 84 4 19 8 19 19 88 21 11 29 20 0 42 19 11 18 17 19 58 17 8 44 15 11 88 18 20 81 18 7 1 11 19 28 11 9 57 |

| | | | TOSADEM C | | | | |
|--|--|---|--|--|--|---|--|
| Moan Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | rue New Moon. Full Ecl.) |
| B.C. 830. D. March. d. h. m. 80 2 3 | | d. h. m. 10 7 12 25 1 34 8 19 56 10 8 41 8 21 25 8 10 9 | d. h. m. 10 2 7 25 11 7 8 19 20 10 12 36 9 4 53 8 19 23 | B.C. 827. G. March. d. h. m. 29 19 29 | JAN FEB MAR APRIL MAY . | d. h. m. 6 22 22 5 11 6 6 23 51 5 12 35 5 1 19 19 19 41 | d. h. m. 7 0 50 5 10 44 6 20 19 5 6 11 4 17 8 20 4 22 |
| • | JUNE . JULY . O AUG SEPT OCT NOV | 6 22 58 | 7 7 48 6 18 21 20 17 26 5 3 46 3 12 58 2 22 27 1 8 54 30 20 25 30 9 4 | | JUNE . JULY . AUG SEPT OCT O NOV DEC | 3 14 3 3 2 47 { 1 15 31 { 31 4 15 29 16 59 29 5 48 { 13 0 5 27 18 27 27 7 11 | 3 5 46 2 20 19 1 12 22 31 5 13 29 21 55 29 13 39 12 13 22 28 3 52 27 16 18 |
| 829. c.B. 29 7 52 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 14 28 28 28 22 51 27 18 40 28 5 15 26 21 3 26 12 20 25 2 31 9 3 15 24 15 22 23 3 2 21 14 0 21 0 48 19 11 30 18 22 25 | | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT. OCT. O NOV. DEC. JAN. FEB. | 20 13 8 19 1 47 18 14 31 2 8 53 17 3 15 16 15 59 | 26 2 59 24 12 10 25 20 25 24 4 29 9 15 5 28 13 25 22 0 9 21 18 22 20 5 9 18 22 50 18 17 20 2 0 51 17 11 18 17 3 23 15 17 5 14 4 16 |
| 828. A. 29 18 40 | JAN FEB MAR APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. | . 16 2 17 . 17 15 2 . 16 3 46 . 15 16 30 . 14 5 14 . 13 17 58 . 12 6 42 | 15 22 35 15 12 55 14 4 2 13 19 45 12 10 5 3 11 1 1 10 14 2 9 2 4 | 29 7 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 | | . 14 6 12 . 12 18 56 . 27 18 18 . 12 7 40 . 10 20 21 . 10 9 8 . 8 21 52 . 7 10 36 . 6 23 20 . 21 17 42 | 14 13 17 12 20 47 27 18 35 12 3 47 10 11 21 9 20 33 8 8 20 6 23 9 6 16 42 21 16 28 5 11 53 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Me*n Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full E-L.) |
|----------------------------|----------------|------------------------------------|-----------------------|---------------------------------|--------|------------------------------------|------------------------------------|
| B.C. 824. | | d. h. m. | d. h. m. | Academie gorionies agrany-agran | | d. h. m. | d. h. m. |
| c. March. | JAN | 8 18 82 | 4 0 57 | B.C. | JAN | 5 1 4 42 | ••• |
| d. h. m. | FEB | 2 2 16 | 2 16 4 | 821. | | (80 17 26 | 80 14 80 |
| 29 12 56 | Mar | 3 15 1 | 4 4 10 | March. | , O | (14 11 48 | 14 20 14 |
| | APRIL | 2 3 45 | 2 18 82 | d. h. m. 29 6 22 | FEB. | (29 6 10 | 29 7 85 |
| | MAY . | 1 16 29 81 5 18 | 1 21 2 81 8 42 | 20 0 22 | MAR. | 29 18 54 28 7 88 | 80 0 19 28 15 48 |
| | T | 29 17 57 | 81 8 42 29 10 87 | | APRIL. | 28 7 88 27 20 22 | 28 5 18 |
| | JUNE. JULY. | 29 6 41 | 28 18 55 | | JUNE . | 26 9 6 | 26 16 48 |
| | Aug | 27 19 25 | 27 5 81 | | July. | 25 21 50 | 26 2 54 |
| | SEPT. | 26 8 9 | 25 19 5 | | 0 | (9 16 12 | 9 8 57 |
| | Oct | 25 20 58 | 25 11 88 | | Aug | 21 10 84 | 24 12 19 |
| | Nov. | 24 9 87 | 24 6 22 | | SEPT. | 22 28 18 | 22 21 48 |
| | DEC. | 28 22 21 | 24 2 8 | | Ocr | 22 12 2 | 22 7 57 |
| | | | | | Nov | 21 0 48 | 2) 18 57 |
| 823. | JAN | 22 11 5 | 22 20 80 | | DEC | 20 18 80 | 20 6 56 |
| В. | FEB | 20 28 49 | 21 12 49 | 820. | JAN | 19 2 14 | 18 19 55 |
| | 0 | 5 7 18 11 | 7 18 8 | E. | FEB | 17 14 58 | 17 9 56 |
| 29 18 45 | MAR | 22 12 33 | 23 2 7 | 29 12 11 | MAR. | 19 8 48 | 19 0 56 |
| | APRIL | 21 1 17 | 21 12 81 | | APRIL. | 17 16 27 | 17 16 29 |
| | MAY . | 20 14 1 | 20 20 48 | | MAY . | 17 5 11 | 17 8 1 |
| | JUNE. | 19 2 45 | 19 8 47 | | JUNE. | (15 17 55 | 15 22 58 |
| | JULY. | 18 15 29 | 18 10 50 | | 0 | (80 12 17 | 80 2 40 |
| | Aug. | 81 22 83 | 16 18 54 | | July . | 15 6 89 | 15 12 87 |
| | 1 _ | | 1 2 0 | | Aug | 18 19 28 | 14 1 6 |
| | SEPT. | 15 16 57 | 15 4 49 | | SEPT | 12 8 7 | 12 12 40 |
| | Oct | 1 | 14 17 12 | | Oct | 11 20 51 | 11 28 42 |
| | Nov | | 13 8 15 | | Nov | 10 9 85 | 10 10 84 |
| | DEC | 13 7 9 | 18 1 81 | | DEC. | 9 22 19 | 9 21 26 |
| 900 | JAN | 11 19 58 | 11 20 2 | | 0 | 24 16 41 | 21 28 28 |
| 822. A. | FEB | (10 8 87 | 10 14 26 | 819. | JAN | 8 11 8 | 8 8 16 |
| | 0 | 25 2 59 | 25 8 45 | D. | FEB | 6 28 47 | 8 19 16 |
| 30 0 33 | MAR. | 11 21 22 | 12 7 28 | 29 18 0 | MAR | 8 12 82 | 8 6 48 |
| | APRIL | 10 10 6 | 10 21 57 | | APRIL | 7 1 16 | 6 19 14 |
| | MAY . | 9 22 50 | 10 9 49 | | MAY . | 6 14 0 | 6 8 56 |
| | JUNE . | . 8 11 34 | 8 19 26 | | JUNK. | 5 2 44 | 4 28 48 19 19 17 |
| | JULY. | | 8 3 40 | , | July. | 19 21 6 4 15 28 | 4 15 21 |
| | Aug. | | 1 | | Aug. | 1 | 1 |
| | 0 | - | 1 | | SEPT. | | |
| | SEPT. | | 1 | | 1 | C 1 5 40 | 1 12 2 |
| | 1 | . 4 14 80 | 1 | | Oct | 80 18 24 | |
| | Nov. | C 0 15 50 | | | Nov. | 1 | |
| | DEC. | . } ~ 13 50 | 2 6 46 31 21 58 | | 0 | | 18 22 88 |
| | 1 | ٠٠٠ - ١٠٠ | 9T ZT 98 | I | DEC. | 28 19 52 | |

| Mean Vernal Equinox. | Month. | Mean New Moon, O Full Ect.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New To Moon. | rue New Moon. Full Ecl.) |
|----------------------------|--------|-----------------------------|-----------------------------|----------------------------|---------|-------------------|---------------------------------------|
| B.C. 818. | | d. h. m. | d. h. m. | B.C. 815. | | d. h. m. | d. h. m. |
| 6. | JAN | 27 8 36 | 27 10 8 | F. , | JAN | 23 23 46 2 | 24 12 53 |
| March. | FEB | 25 21 20 | 25 19 35 | March. d , h , m . | FEB | 22 12 30 2 | 23 2 24 |
| d. h. m. 29 23 49 | MAR. | 27 10 4 | 27 4 56 | 29 17 15 | MAR | 24 1 14 9 | 24 12 57 |
| 20 20 90 | APRIL | 25 22 48 | 25 15 1 | | 0 | (7 19 36 | 7 15 13 |
| | MAY . | 25 11 32 | 25 2 35 | | APRIL | 12 1 | 22 21 13 |
| | | (9 5 54 | 9 12 1 | | MAY . | 22 2 42 | 22 4 7 |
| | June. | 24 0 16 | 23 16 6 | | June . | 20 15 26 | 20 10 47 |
| | July. | 23 13 0 | 23 7 32 | | JULY. | 20 4 10 | 19 18 20 |
| | | 22 1 44 | 22 0 17 | | Aug | 18 16 54 | 18 3 46 |
| | Aug. ; | 20 14 23 | 20 17 26 | | SEPT | 17 5 38 | 16 15 52 |
| | SEPT | | 20 10 2 | | 0 | (200 | 2 5 39 |
| | Oct | 1 | 19 1 14 | | Oct | 16 18 22 | 16 7 1 |
| | Nov. | 18 15 56 | 3 1 15 | | Nov. | 15 7 6 | 15 0 48 |
| | ~ 0 | 3 10 18 | | | DEC. | 14 19 50 | 14 20 5 |
| | DEC | (18 4 40 | 18 14 39 | | 220. | 1 | |
| | 1_ | 10 17 01 | 17 0 0 | 814. | JAN. | 13 8 34 | 13 15 16 |
| 817. | JAN | 16 17 24 | 17 2 9 | E. | FEB. | 1 | 12 8 46 |
| B.A. | FEB | 15 6 8 | 15 11 58 | 29 23 4 | MAR. | | 13 23 33 |
| 29 5 38 | MAR. | 15 18 53 | 15 20 19 | 29 25 4 | O | 28 4 25 | 27 22 16 |
| | APRIL | 14 7 37 | 14 4 10 | ii . | APRIL | 1 1 | 12 11 17 |
| | MAY . | 13 20 21 | 13 12 24 | | MAY | | 11 20 28 |
| | JUNE . | 12 9 5 | 11 22 0 | | JUNE | | 10 4 2 |
| | JULY. | 11 21 49 | 11 9 54 | 1 | | | 9 11 4 |
| 1 | Aug | 10 10 33 | 10 0 29 | 1 | JULY | | 7 18 37 |
| | SEPT | 8 23 17 | 8 17 29 | 1 | Aug. | 0.44.05 | 6 3 39 |
| | Oct | 8 12 1 | 8 11 56 | 11. | SEPT. | 12 | 21 13 45 |
| | Nov. | 7 0 45 | 7 6 29 | 11 | 0 | | 5 14 52 |
| ţ | DEC | 6 13 29 | 6 23 45 | • | Oct. | | 4 4 36 |
| | | | | | Nov. | | 3 20 46 |
| 816. | JAN. | 5 2 18 | 5 14 46 | ; | DEC. | . 4 4 55 | 3 20 10 |
| G. | FEB. | 0 14 75 | 4 3 8 | 3 | | | 0.11.00 |
| 29 11 2 | 1 | - 0.40 | 5 13 (| | JAN. | 1 | 1 |
| 20 11 2 | APRIL | 0 10 0 | 3 21 | D.C. | FEB. | · · | |
| } | O | 18 10 48 | 1 | 1 29 4 58 | MAR. | § 1 18 52 | |
| | MAY | | | 3 25 4 50 | THE ALL | COT | 1 |
| | June | | L (1 11 | 6 | APRI | 1 | 1 22 42 24 |
| | OUME | | 130 19 1 | 9 | May | 1 | 1 |
| | July | 1 6 3 | 1 | <u>.</u> | JUNE | 1 | |
| | 301 | (50 19 2 | 7 | 6 | July | . 1 | 1 |
| | Aug. | . === | | - 11 | ÁUG. | | 1 |
| | SEPT. | | 1 | 11 | SEPT | | |
| | 0 | 12 15 1 | | 7 | Ост. | 4 | |
| | Ост. | . 27 9 3 | | - 11 | Nov. | 4 | |
| | Nov. | . 25 22 1 | | 11 | DEC. | . 22 2 19 | 2 21 18 22 |
| | DEC. | . 25 11 | $2 \mid 25 \ 20 \ 2$ | .0 | İ | Î | · · · · · · · · · · · · · · · · · · · |
| l l | | i | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (○ Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ect.) | True New Moon. (O Full Ecl.) |
|---|--------|------------------------------------|------------------------------------|----------------------------|--------|-----------------------------------|------------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 809. | | d. h. m. | d. h. m. |
| 812. | JAN | 20 14 56 | 20 10 3 | F.E. | JAN | 18 6 6 | 18 9 32 |
| В. | 0 | (4 9 18 | 4 19 32 | March. d . h . m . | FEB | 16 18 50 | 16 19 2 |
| March. | FEB | 19 3 40 | 19 2 43 | 29 4 8 | MAR | 17 7 31 | 17 4 7 |
| $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | MAR. | 20 16 24 | 20 19 31 | | APRIL | 15 20 18 | 1 5 13 3 0 |
| | APRIL | 19 5 8 | 19 11 32 | | MAY . | (15 9 2 | 15 0 2 |
| . | MAY. | 18 17 52 | 19 2 3 | | 0 | 30 3 24 | 30 11 36 |
| | June . | 17 6 36 | 17 14 42 | | June . | 13 21 46 | 13 12 26 |
| | JULY. | (16 19 20 | 17 1 40 | | JULY. | 13 10 30 | 13 2 58 |
| | O . | 31 13 42 | 31 0 35 | | | 11 23 14 | 11 19 18 |
| | _ | - | | | Aug | | 10 12 36 |
| | Aug. | 15 8 4 | 15 11 35 | | SEPT | 10 11 58 | |
| | SEPT | 13 20 48 | 13 21 11 | | Oct | 10 0 42 | |
| | Oct. | 13 9 32 | 13 7 9 | | Nov | 8 13 26 | 8 22 3 |
| | Nov. | 11 22 16 | 11 17 47 | | _ 0 | 23 7 48 | 22 21 53 |
| | DEC | 11 11 0 | 11 5 14 | | DEC | 8 2 10 | 8 12 32 |
| 811. | JAN | (9 23 44 | 9 17 32 | 808. | JAN | 6 14 54 | 7 0 58 |
| Δ. | 0 | 24 18 6 | 25 7 37 | D. | FEB | 5 3 38 | 5 11 25 |
| 1 | FEB | 8 12 28 | 8 6 45 | 29 9 57 | MAR | 6 16 28 | 6 20 16 |
| 29 16 30 | MAR. | 10 1 13 | 9 20 59 | | APRIL | 5 5 7 | 5 4 7 |
| 1 | APRIL | 8 13 57 | 8 12 2 | | MAY . | § 4 17 51 | 4 11 51 |
| | MAY . | 8 2 41 | 8 3 32 | | 0 | 19 12 13 | 19 21 55 |
| | JUNE . | | 6 18 50 | | JUNE. | 3 6 35 | 2 20 31 |
| | JULY. | | 6 9 19 | | JULY . | 2 19 19 | 2 7 8 |
| | 0 | 20 22 31 | 20 10 45 | | Aug | 1 8 3 | 31 20 28 |
| | Aug. | 4 16 53 | 4 22 40 | | | 30 20 47 | 30 12 22 |
| | SEPT. | 3 5 37 | 3 10 56 | ł | SEPT | 29 9 31 | 29 6 24 |
| 1 | Oct. | 2 18 21 | 2 22 28 | | Oct | 28 22 15 | 29 1 16 |
| | 7NT | (175 | 1 9 34 | 1 | 0 | §12 16 37 | 12 9 43 |
| | Nov. | 130 19 49 | 30 20 30 | | Nov. | (27 10 59 | 27 19 29 |
| | DEC. | . 30 8 33 | 30 7 15 | | DEC | 26 28 48 | 27 11 46 |
| 010 | T | 00 01 1- | 20 75 75 | 807. | JAN | 25 12 27 | 26 1 26 |
| 810. _{G.} | JAN. | . 28 21 17 | 28 17 57 | c. | FEB | 24 1 11 | 24 12 23 |
| | FEB. | - - | | 29 15 46 | M.AR | 25 13 56 | 25 21 7 |
| 29 22 19 | MAR. | 1 | 1 | | APRIL | 24 2 40 | 24 4 23 |
| | APRIL | | |]] | 0 | (821 2 | 9 1 5 |
| | MAY | 1 | | | MAY . | 23 15 24 | 28 11 18 |
| | June | | i | | JUNE . | 22 4 8 | 21 18 41 |
| | _ 0 | (10 7 20 | 1 | | JULY . | 21 16 52 | 21 3 54 |
| | JULY | (| | | Aug | 20 5 36 | 19 15 48 |
| | A.ug. | | 1 | | SEPT | 18 18 20 | 18 6 47 |
| | SEPT. | | 1 | | Oct | 18 7 4 | 18 0 30 |
| | Ocr. | . 21 15 54 | 21 22 56 | 1 | 0 | (2 1 26 | |
| | Nov. | . 20 4 38 | 20 11 36 | | Nov. | 16 19 48 | |
| | DEC. | . 19 17 22 | 19 23 7 | | DEC. | 16 8 32 | 1 |
| | 1 | 1 | | 11 | 1 220. | 10 0 02 | 10 10 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) (| True New Moon. O Full Ecl.) |
|----------------------------|-------------|-----------------------------------|-----------------------------|----------------------------|--------|--------------------------------------|-----------------------------|
| B.C. 806. | T | d. h. m. 14 21 16 | d. h. m. 15 8 58 | B.C. 803. | Jan | d. h. m. | d. h. m. 11 6 6 |
| March. | JAN FEB | 13 10 0 | 13 23 58 | E. | FEB | (10 1 9 | 9 22 4 |
| d. h. m. | MAR. | 14 22 44 | 15 11 52 | March. | 0 | 24 19 31 | 25 4 15 |
| 29 21 35 | | 13 11 28 | 13 21 6 | d. h. m. 29 15 1 | MAR | 11 13 54 | 11 14 39 |
| i | APRIL MAY . | 13 0 12 | 13 4 30 | 20 20 - | APRIL | 10 2 33 | 10 7 1 |
| | JUNE . | 11 12 56 | 11 11 9 | | MAY . | 9 15 22 | 9 22 19 |
| | JULY . | 11 1 10 | 10 18 11 | | JUNE . | 8 4 6 | 8 11 59 |
| | Aug. | 9 14 24 | 9 2 37 | | JULY . | 7 16 50 | 7 23 56 |
| | | 8 3 8 | 7 13 25 | | Aug | (6 5 34 | 6 10 32 |
| | SEPT | 7 15 52 | 7 3 7 | | 0 | 20 23 56 | 20 11 15 |
| | Ocr | 6 4 36 | 5 19 42 | | SEPT | 4 18 18 | 4 20 28 |
| | Nov | 5 17 20 | 5 14 22 | | Oct | 4 7 2 | 4 6 25 |
| | DEC | 5 11 20 | 0 11 22 | | Nov. | 2 19 46 | 2 16 51 |
| | | 1 | | | D | (2 8 30 | 2 3 53 |
| 805. | JAN. | 4 6 4 | 4 9 42 | | DEC | 31 21 14 | 31 15 36 |
| A.G. | FEB | 2 18 48 | 3 4 7 | | | | |
| 29 3 23 | MAR | 3 7 33 | 3 20 15 | 802. | JAN | 30 9 58 | 30 4 6 |
| | 0 | (18 1 55 | 17 20 49 | υ. | FEB | 28 22 48 | 28 17 80 |
| | APRIL | 1 20 17 | 2 5 26 | 29 20 50 | MAR | 30 11 27 | 80 7 58 |
| | MAY . | 1 9 1 | 1 19 47 | | APRIL | 29 0 11 | 28 23 2 |
| | MARY . | 30 21 45 | 31 4 4 | | MAY . | 28 12 55 | 28 14 27 |
| | JUNE . | 29 10 29 | 29 11 18 | | June . | 27 1 39 | 27 5 30 |
| | July . | 28 23 13 | 28 18 36 | | JULY . | 26 14 23 | 26 19 41 |
| | Aug | 27 11 57 | 27 2 58 | | Aug. | 25 3 7 | 25 8 46 |
| | . 0 | $\int 11 6 19$ | 11 9 31 | | SEPT. | 23 15 51 | 23 20 55 |
| | SEPT | 26 0 41 | 25 13 8 | İ | Ocr. | 23 4 35 | 23 8 26 |
| 1. | Oct | 25 13 25 | 25 1 40 | | Nov. | . 21 17 19 | 21 19 33 |
| | Nov | 24 2 9 | 23 16 37 | | DEC. | . 21 6 3 | 21 6 22 |
| | DEC | 23 14 53 | 23 9 35 | | | 1 | |
| | | 1 | | | 0 | 5 0 25 | 1 |
| 804. | JAN | 22 3 37 | 22 3 43 | 801. | JAN. | · \19 18 47 | |
| F. | FEB | 20 16 21 | 20 21 44 | C.B. | FEB. | · 18 7 31 | l . |
| | 0 | 7 10 48 | 7 11 49 | 29 2 39 | MAR. | · 18 20 15 | 1 |
| 29 9 12 | MAR. | 22 5 5 | 1 . | | APRII | | |
| 1 | APRIL | 20 17 49 | 1 | | MAY | | |
| | MAY . | 20 6 38 | | , | JUNE | 1) -0 | |
| | JUNE . | . 18 19 17 | 19 2 39 | | _ 0 | 30 4 49 | 1 |
| | JULY . | . 18 8 1 | 1 | | JULY | | |
| | Aug. | 1) | | | Aug. | 10 00 | |
| | 0 | (81 15 7 | | | SEPT. | | |
| | SEPT. | 1 | 1 | | Oct. | 11 13 28 | |
| | Oct. | . 14 22 13 | | | Nov. | 10 2 7 | |
| | Nov. | . 13 10 57 | l . | | | 9 14 5 | |
| | DEC. | . 12 23 41 | 12 15 19 | | 0 | 24 9 1 | 3 24 6 30 |
| | | | | | 1 | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon, () Full Kel.) |
|----------------------------|--------|--|------------------------------------|----------------------------|-----------------------------------|----------------|-------------------------------|
| B.C. 800, | | d. h. m. | d. h. m. | B.C. 797. | 1 E. HA VALUE - MEDITAL PROPERTY. | d. h. m. | d. h. m. |
| A | JAN | 8 8 85 | 8 8 49 | E.D. | JAN | 5 18 45 | 6 4 20 |
| March. $d. h. m.$ | FEB | 6 16 19 | 6 18 85 | March. | FEB | 4 7 29 | 4 20 45 |
| 29 8 28 | MAR | 8 5 4 | 8 8 85 | 29 1 54 | MAR | 4 20 14 | 5 10 9 |
| | APRIL | 6 17 48 | 6 12 28 | | APRIL | (8 8 58) | 8 20 88 |
| | MAY . | 6 6 82 | 5 22 6 | | O | 18 8 20 | 17 22 2 |
| | June. | (4 19 16 | 4 9 22 | | MAY . | 2 21 42 | 8 4 41 |
| | 0 | 19 18 88 | 19 19 22 | | | 1 10 26 | 1 11 84 |
| | JULY. | 480 | 8 22 47 | | June. | 130 28 10 | 80 18 20 |
| | Aug | 2 20 44 | 2 14 28 | | July. | 80 11 54 | 80 2 2 |
| | | (1 9 28 | 1 7 80 | | Aug. | 29 0 88 | 28 11 89 |
| | SEPT | 80 22 12 | (1 1 9 | | SEPT. | 27 18 22 | 26 28 57 |
| | Ocr | 80 10 56 | 80 18 14 | | 0 | 112 7 44 | 12 14 5 |
| | Nov. | 28 28 40 | 29 9 48 | | Oct | 27 2 8 | 26 15 10 |
| | 0 | (18 18 2 | 18 9 40 | | Nov. | 25 14 50 | 25 8 58 |
| | DEC | 28 12 24 | 28 28 21 | | DEC | 25 8 84 | 25 8 59 |
| | | | | | | | |
| 799. | JAN | 27 1 8 | 27 10 40 | 700 | JAN | 28 16 18 | 28 22 57 |
| G. | FEB. | 25 18 52 | 25 20 6 | 798. c. | FEB. | 22 5 2 | 22 16 18 |
| 29 14 16 | MAR. | 27 2 37 | 27 4 11 | | MAR. | 28 17 47 | 24 6 50 |
| | APRIL | 25 15 21 | 25 11 40 | 29 7 48 | | 6 7 12 9 | 7 5 89 |
| | MAY. | 25 4 5 | 24 19 87 | | O April | 22 6 81 | 22 18 82 |
| | June . | 28 16 49 | | | MAY . | 21 19 15 | 22 8 45 |
| į | JULY. | 28 5 38 | | | JUNE . | 20 7 59 | 20 11 23 |
| | Aug. | 21 18 17 | 21 7 40 | | JULY. | 19 20 48 | 19 18 44 |
| | SEPT. | 20 7 1 | | | 1 | 18 9 27 | 18 2 88 |
| 1 | Oct. | 19 19 45 | | | AUG | 16 22 11 | 16 11 58 |
| 1 | Nov. | 18 8 29 | | | | 1 16 88 | 1 21 87 |
| 1 | DEC. | 17 21 18 | | | Oor. | 16 10 55 | 15 28 21 |
| 1 | 1020. | 11 21 10 | 10 0 4 | | Nov. | 14 28 89 | 14 18 5 |
| 1 | - | 10 0 == | | | Drc. | 14 12 28 | 14 5 0 |
| 798. | JAN. | 16 9 57 | | | 10 KU | T-S T T TO | A'R O U |
| | FEB | 14 22 41 | | | - | | |
| 29 20 5 | MAR. | 16 11 25 | | 795. B. | JAN | 18 1 7 | 12 22 80 |
| | APRIL | $\begin{cases} 15 & 0 & 9 \\ 29 & 18 & 9 \end{cases}$ | 15 4 40 | | FEB | 11 18 51 | 11 16 80 |
| | MAY . | | | 29 13 82 | MAR | 18 2 85 | 18 9 47 |
| | JUNE . | | | | APRIL | 11 15 19 | 12 1 20 |
| | JULY . | | | | MAY . | 11 4 8 | 11 14 88 |
| | Aug. | | | | JUNE. | 9 16 47 | 10 1 29 |
| | SEPT. | | | | JULY. | 9 5 81 | 9 10 45 |
| | Oct. | 9 4 3 | | | Aug | 7 18 15 | 7 19 17 |
| | 001. | $\begin{cases} 23 & 22 & 5 \\ 23 & 22 & 5 \end{cases}$ | | | SEPT | 6 6 59 | 6 4 0 |
| | Nov. | | | | Oct. | 5 19 48 | 5 18 86 |
| | DEC. | | 7 14 1 L 7 9 37 | | Nov. | 4 8 27 | 4 0 80 |
| 1 | - E. | . , , , , | - | 11 | DEC | 8 21 11 | 8 12 52 |

| | | 1 | - 10 | 1 | 1 | 1 | |
|----------------------------|--------|------------------------------|------------------------------|----------------------------|--------|----------------|----------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. Tull Ecl.) |
| B.C. | | d. h. m. | d. h. m. | B.C. 791. | | d. h. m. | d. h. m. |
| 794. | JAN | 2 9 55 | 2 2 42 | n. March. | JAN | 28 13 49 | 28 18 6 |
| ۸. | | (31 22 39 | 31 17 52 | d. h. m. | FEB | 27 2 33 | 27 3 12 |
| March. | FEB | \{ ··· | | 29 12 47 | MAR | 28 15 18 | 28 11 50 |
| d. h. m. | 0 | (15 17 1 | 16 3 46 | | APRIL | 27 4 2 | 26 20 46 |
| 29 19 20 | MAR | 2 11 24 | 2 9 58 | | MAY . | 26 16 46 | 26 6 57 |
| | APRIL | [1 0 8 | 1 2 18 | | 0 | §10 11 8 | 10 18 50 |
| | | (30 12 52 | 50 18 7 | | JUNE. | 25 5 30 | 24 19 11 |
| | MAY . | 30 1 36 | 30 8 41 | | July. | 24 18 14 | 24 9 45 |
| | June. | 28 14 20 | 28 21 38 | | Aug | 23 6 58 | 23 2 21 |
| | JULY . | 28 3 4 | 28 9 5 | | SEPT | 21 19 42 | 21 20 7 |
| | 0 | ∫11 21 26 | 11 7 54 | | Oct | 21 8 26 | 21 13 50 |
| 1 | Aug | 26 15 48 | 26 19 32 | | Nov | 19 21 10 | 20 6 28 |
| | SEPT | 25 4 32 | 25 5 40 | | 0 | § 4 15 32 | 4 6 28 |
| | Oct | 24 17 16 | 24 15 59 | | DEC | 19 9 54 | 19 21 9 |
| | Nov | 23 6 0 | 23 2 45 | 790. | JAN | 17 22 38 | 18 9 33 |
| | DEC | 22 18 44 | 22 14 4 | c. | FEB. | 16 11 22 | 16 19 44 |
| 793. | JAN | 21 7 28 | 21 1 55 | 29 18 36 | MAR. | 18 0 7 | 18 4 14 |
| G.F. | 0 | (5 1 50 | 5 15 41 | 29 10 50 | APRIL | 16 12 51 | 16 11 41 |
| 1 | FEB. | 19 20 12 | 19 14 34 | | MAY. | (16 1 35 | 15 19 11 |
| 29 1 9 | | | 20. 4 10 | | 0 | 30 19 57 | 31 4 42 |
| 20 1 0 | APRIL | | 18 18 44 | 1 | JUNE . | 1 | 14 3 40 |
| | MAY | | 18 9 58 | | July | | 1 |
| | June | | 17 1 19 | | Aug. | | 12 3 33 |
| | July | 1 | 16 16 10 | | SEPT. | 44 4 64 | 1 |
| | 0 | 81 6 18 | 4 | | Oct. | 10 17 15 | 4 |
| | Aug. | 1 | 15 6 5 | | Nov. | . (9 5 59 | 9 9 15 |
| | SEPT. | | 13 18 58 | i. | 0 | 24 0 2 | 1 23 18 37 |
| į | Ocr. | | | . | DEC. | . 8 18 48 | 9 3 40 |
| | Nov. | 1 | 11 18 29 |) | _ | | 7 00 0 |
| | ~ | . 11 8 8 | ł | ,∥ 789. | JAN. | . 7 7 27 | |
| 792. | JAN. | . 9 16 17 | 9 16 1 | B.A. | FEB. | . 5 20 1 | |
| 792. E. | FEB. | 8 5 | . 1 | 1 29 0 2 | | | |
| | | 11 1 | | 11 | APRII | 1 | |
| 29 6 5 | | 0.0.1 | | 11 | MAY | 12 | |
| | MAY | | | 11 | - 0 | 19 4 4 | |
| | June | | | 11 | JUNE | | |
| | JULY | · | | 11 | JULY | (103 | 01 11 00 |
| | JOLX | 1.19 | 3 20 10 13 | 11 | Aug. | | |
| | Aug. | | | l i | 0 | 200 | 3 28 14 31 |
| 1 | SEPT. | 2 22 | 9 3 1 3 | · i | SEPT. | 28 14 4 | |
| | SEPT. | (2 10 5 | | á | Oct. | 1 . | 9 12 10 12 |
| | Ocr. | 81 23 3 | - 1 | | Nov. | 13 | |
| | Nov. | 1 `~~ +~ ~ | 11.5.17 | | DEC. | 26 16 1 | |
| | DEC. | 20 1 | 5 30 7 5 | 11 | DEC. | . 20 10 1 | |
| 1 | DEC. | . 50 1 | <u> </u> | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|-------------------------------|---|---|--|--|---|--|
| B.C. 788. G. March. d. h. m. 29 6 13 | Jan Feb Mar | d. h. m. 25 4 59 28 17 43 25 6 28 | d. h. m. 25 16 49 24 7 41 25 19 27 | B.C. 785. D.C. March. d. h. m. | Jan Feb | d. h. m. 22 20 9 21 8 53 (7 8 15 | d. h. m. 22 14 10 21 5 33 7 12 28 |
| | APRIL MAY . JUNE . | 23 19 12 23 7 56 21 20 40 | 24 4 33 23 11 56 21 18 39 | 28 23 40 | MAR APRIL MAY . | 21 21 38 20 10 22 19 23 6 | 21 21 35 20 13 37 20 4 51 18 18 45 |
| | JULY . AUG SEPT OCT | 21 9 24 19 22 8 18 10 52 17 23 36 | 21 1 49 19 10 30 17 21 30 17 11 19 | | JUNE. JULY. Aug | 18 11 50 18 0 34 (16 13 18 (31 7 40 | 18 7 8 16 18 16 80 18 44 |
| 787. | Nov DEC | 16 12 20 16 1 4 14 13 48 | 16 3 52 15 22 21 14 17 26 | | SEPT OCT Nov DEC | 15 2 2 14 14 46 13 3 30 12 16 14 | 15 4 45 14 15 9 13 1 48 12 12 47 |
| F. 29 12 2 | FEB MAR | 13 2 32 {14 15 16 29 9 38 | 13 11 35 15 3 29 29 4 24 | 784. _B . | JAN FEB | 11 4 58 9 17 42 | 11 0 11 9 12 9 |
| | APRIL MAY . JUNE . JULY . AUG | 13 4 0 12 16 44 11 5 28 10 18 12 9 6 56 | 13 16 35 13 2 58 11 11 24 10 18 52 9 2 30 | 29 5 29 | MAR APRIL MAY. JUNE. JULY. | 11 6 26 9 19 10 9 7 54 7 20 38 7 9 22 | 11 0 55 9 14 45 9 5 32 7 20 55 7 12 12 |
| | SEPT O OCT Nov | 7 19 40 22 14 2 7 8 24 5 21 8 | 7 11 11 22 17 8 6 21 38 5 10 12 | | Aug SEPT Oct Nov | 5 22 6 4 10 50 3 23 34 2 12 18 | 6 2 50 4 16 81 4 5 16 2 17 12 |
| 786. E. | DEC | 5 9 52 3 22 36 | 5 0 59 3 17 37 | | DEC | (2 1 2 31 13 46 | 2 4 80 81 15 12 |
| 29 17 51 | FEB MAR O APRIL | $\begin{bmatrix} 2 & 11 & 20 \\ 4 & 0 & 5 \\ 18 & 18 & 27 \\ 2 & 12 & 49 \end{bmatrix}$ | 2 11 16 4 4 52 18 19 45 2 21 15 | 783. A. 29 11 17 | JAN FEB MAR | 15 8 8 30 2 30 28 15 15 30 3 59 | 15 15 1 30 1 28 28 11 24 29 21 44 |
| | MAY . JUNE . JULY . | 2 1 33 31 14 17 30 3 1 29 15 45 | 2 11 38 31 23 45 30 9 54 29 18 54 | | APRIL MAY . JUNE . | 28 16 43 28 5 27 26 18 11 | 28 9 8 27 22 7 26 12 47 |
| | Aug O SEPT | 28 4 29 (11 22 51 26 17 13 | 28 3 39 11 17 11 26 12 56 | | JULY . AUG SEPT | 11 12 33 26 6 55 24 19 39 23 8 23 | 11 10 26 26 4 44 24 21 13 28 18 25 |
| | Oct Nov Dec | 26 5 57 24 18 41 24 7 25 | 25 23 16 21 10 54 23 23 52 | | OCT Nov DEC | 22 21 7 21 9 51 20 22 35 | 23 4 39 21 18 30 21 6 46 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | Frue New Moon.) Full Ecl.) |
|---|---|---|---|---|---|---|---|
| B.C. 782. G. March. d. h. m. 29 17 6 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC O JAN FEB MAR APRIL MAY . JUNE . JULY . AUG. | 7 21 36 6 10 20 5 28 4 4 11 48 4 0 39 2 13 10 | 10 18 21 24 18 4 9 7 54 7 19 5 8 4 11 6 11 55 14 5 19 6 18 4 2 50 18 12 12 18 14 58 | | JAN FEB | 14 15 13 16 3 58 (14 16 42 (29 11 4 14 5 26 12 18 10 12 6 54 10 19 38 9 8 22 (8 21 6 (23 15 28 7 9 50 6 22 34 5 11 18 4 0 2 5 12 46 (4 1 30 (18 19 52 3 14 14 2 2 58 (1 15 42 31 4 26 29 17 10 | d. h. m. 16 12 12 15 4 28 16 17 43 15 4 0 29 4 25 14 12 6 12 19 1 12 1 55 10 9 52 8 19 48 8 8 11 23 22 36 6 28 25 6 16 59 5 11 50 4 6 27 5 28 29 4 18 56 18 12 56 4 1 38 2 10 59 1 18 55 31 2 31 29 10 45 27 20 24 |
| 780. | Oct. Nov. Dec. | . 28 16 1 . 28 4 5 | 2 28 22 42 6 28 16 16 | 3 | O OCT. Nov. DEC. | 13 0 16 27 18 38 26 7 22 25 20 6 | 13 5 33 27 7 57 25 21 36 25 13 13 |
| 29 4 4· | FEB. | 25 6 2 26 19 25 7 5 10 2 3 24 20 4 28 9 2 22 22 21 10 4 19 23 3 19 12 3 (3 6 | 24 25 19 18 9 27 4 44 18 25 12 11 15 10 3 3 87 24 18 5 21 28 1 5 22 10 1 49 20 20 5 38 19 10 3 39 3 9 1 1 17 22 | 3 777. A.G. 28 22 10 3 1 0 0 0 0 8 2 0 0 | Jan. Feb. 0 Mar. Apri May June July Aug Sept Oct. Nov. Dec. | 22 21 34 28 10 19 21 28 3 21 11 47 20 0 81 19 18 15 16 14 45 16 3 27 14 16 15 | 22 28 45 28 16 42 22 8 6 21 21 23 20 8 35 19 18 16 18 3 15 3 16 12 24 15 22 20 14 9 20 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| B.C. | | d. h. m. | đ. h. m. | B.C. 773. | | d. h. m. | d. h. m. |
| 776. | JAN | 12 17 39 | 12 10 59 | С.В. | JAN | 10 8 49 | 10 16 41 |
| F. | FEB | (11 6 23 | 11 1 34 | March. $d. h. m.$ | FEB | 8 21 33 | 9 2 34 |
| March. $d. h. m.$ | 0 . | 26 0 45 | 26 11 53 | 28 21 26 | MAR. | 9 10 17 | 9 11 16 |
| 29 8 59 | MAR. | 12 19 7 | 12 17 4 | | APRIL | 7 23 1 | 7 19 25 |
| | APRIL | 11 7 51 | 11 8 58 | | MAY. | 7 11 45 | 7 3 57 |
| | MAY . | 10 20 35 | 11 0 37 | | JUNE . | (6 0 29 | 5 13 53 |
| | JUNE . | 9 9 19 | 9 15 18 | | 0 | 20 18 51 | 21 2 3 |
| | JULY. | 8 22 3 | 9 4 36 | | JULY . | 5 13 13 | 5 2 0 |
| | Aug | (7 10 47 | 7 16 34 | | Aug. | 4 1 57 | 3 16 39 |
| | 0 | 22 5 9 | 21 15 21 | | SEPT. | 2 14 41 | 2 9 32 |
| | SEPT | 5 23 31 | 6 3 36 | | | (2 3 25 | 2 3 42 |
| | Oct | 5 12 15 | 5 14 14 | | Ост | 31 16 9 | 31 21 54 |
| | Nov | 4 0 59 | 4 0 52 | | Nov | 30 4 53 | 30 14 51 |
| | DEC. | 3 13 43 | 3 11 42 | | | (14 23 15 | 14 15 0 |
| | | | | | DEC | 29 17 37 | 30 5 40 |
| 775 | JAN | § 2 2 27 | 1 22 47 | | DEC | (25 11 01 | 00 0 ±0 |
| 775. E. | | (31 15 11 | 81 10 12 | 772. | JAN | 28 6 21 | 28 17 57 |
| | FEB | ξ | | A. | FEB | 26 19 5 | 27 3 54 |
| | 0 | (15 9 33 | 15 23 32 | 29 3 15 | MAR | 28 7 50 | 28 12 5 |
| 29 9 48 | MAR. | 5 2 3 56 | 1 22 15 | | APRIL | 26 20 34 | 26 19 17 |
| 10 0 10 | | (31 16 40 | 31 11 15 | | MAY. | 26 9 18 | 26 2 30 |
| | APRIL | 80 5 24 | 30 1 21 | | 0 | (10 3 40 | 10 11 28 |
| | MAY. | 29 18 8 | 29 16 25 | | June . | 24 22 2 | 24 10 52 |
| | JUNE . | 28 6 52 | 28 7 52 | | JULY . | 24 10 46 | 23 21 25 |
| | JULY . | 27 19 96 | 27 23 5 | | Aug | 22 23 30 | 22 10 52 |
| | 0 | 511 13 58 | 11 2 6 | | SEPT | 21 12 14 | 21 3 13 |
| | Aug | 26 8 20 | 26 13 34 | | Ост | 21 0 58 | 20 21 50 |
| | SEPT | 24 21 4 | 25 3 5 | | Nov | 19 13 42 | 19 17 14 |
| | Ocr | 24 9 48 | 24 15 39 | | 0 | (484 | 4 3 31 |
| | Nov | 22 22 32 | 23 3 23 | | DEC | 19 2 26 | 19 11 49 |
| | DEC | 22 11 16 | 22 14 23 | 771. | Τ | 17 17 10 | 10 4 10 |
| 774. | JAN | 21 0 0 | 21 0 40 | G. | JAN | 17 15 10 | 18 4 12 |
| D. | FEB. | 19 12 44 | 19 10 28 | 29 9 8 | FEB. | 16 3 54 | 16 17 38 |
| 29 15 37 | MAR. | 21 1 29 | 20 20 17 | 20 0 0 | MAR. | 17 16 39 | 18 4 11 |
| | APRIL | 19 14 13 | 19 6 50 | | APRIL | 16 5 23 | 16 12 27 |
| | MAY. | 19 2 57 | 18 18 48 | | MAY. | (15 18 7 | 15 19 22 |
| | June . | 17 15 41 | 17 8 34 | | - 0 | (30 12 29 | 30 14 0 |
| | JULY . | (17 4 25 | | | JUNE. | 14 6 51 | 14 2 2 |
| | O O | 31 22 47 | | | JULY. | 13 19 35 | 13 9 31 |
| | AUG | | | 1 | Aug | 12 8 19 | 11 19 0 |
| | SEPT. | | 15 16 29 | | SEPT | 10 21 3 | 10 7 11 |
| | OCT. | 14 5 58 | 14 9 12 | | Oct | 10 9 47 | 9 22 26 |
| | Nov. | 13 18 37 | 14 1 15 | | Nov | 8 22 31 | 8 16 22 |
| | DEC. | 12 7 21 | 12 16 3 | | 20 | 23 16 53 | 23 19 10 |
| | DEC | 11 20 5 | 12 5 13 | | DEC | 8 11 15 | 8 11 47 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|--|---------------------|----------------------------|-------------|--|-----------------------------------|
| B.C. 770. | | d. h. m. | d. h. m. | B.C. 767. | | d. h. m. | d. h. m. |
| F. | JAN | 6 23 59 | 7 7 2 | В, | JAN | 3 15 9 | 3 8 23 |
| March. d. h. m. | FEB | 5 12 43 | 6 0 32 | d. h. m. | FEB | 2 3 53 | 1 22 7 |
| 29 14 52 | MAR | 7 1 27 | 7 15 14 | 29 8 19 | MAR | (3 16 37 | 3 12 53 |
| | APRIL | 5 14 11 | 6 2 52 | ' | 0 | (18 10 59 | 18 21 38 |
| | MAY . | 5 2 55 | 5 11 55 | | APRIL | 2 5 21 | 2 4 24 |
| | JUNE . | 3 15 39 | 3 19 19 | | M | (1185 | 1 20 8 |
| | July. | 3 4 23 | 3 2 11 | | MAY . | [31 6 49] | 31 11 22 |
| | Aug | $\begin{cases} 1 & 17 & 7 \\ 31 & 5 & 51 \end{cases}$ | 1 9 36 30 18 32 | | JUNE. JULY. | 29 19 33 29 8 17 | 30 1 31 29 14 22 |
| Ì | SEPT. | 29 18 35 | 29 5 44 | | Aug. | 27 21 1 | 28 2 6 |
| | Oct. | 29 7 19 | 28 19 37 | | 0 | (11 15 23 | 11 2 21 |
| | Nov. | 27 20 3 | 27 12 3 | | SEPT | 26 9 45 | 26 13 8 |
| | DEC. | 27 8 47 | 27 6 17 | | Oct. | 25 22 29 | 25 23 56 |
| | DEC | 2. 0 1. | 2. 01. | | Nov. | 24 11 13 | 24 10 44 |
| | _ | 07 04 04 | 20 1 0 | | DEC. | 23 23 57 | 23 21 38 |
| 769. E.D. | JAN | 25 21 31 | 26 1 2 | | 220. 1 | 20 20 0. | |
| | FEB | 24 10 15 | 24 18 52 | 766. | JAN | 22 12 41 | 22 8 40 |
| 28 20 41 | MAR | 24 23 0 | 25 10 36 | A. | FEB | 21 1 25 | 20 20 5 |
| | 0 | 8 17 22 | 8 11 54 | 29 14 8 | MAR | 22 14 10 | 22 8 16 |
| | APRIL | 23 11 44 | 23 23 38 | | APRIL | 21 2 54 | 20 21 33 |
| | MAY . | 23 0 28 | 23 10 7 | | MAY . | 20 15 38 | 20 12 3 |
| İ | June. | 21 13 12 | 21 18 45 | | JUNE . | 19 4 22 | 19 3 23 |
| | JULY . | 21 1 56 | 21 2 33 | | JULY . | 18 17 6 | 18 18 56 |
| | Aug | 19 14 40 | 19 10 33 | | Aug. | 17 5 50 | 17 10 6 |
| | SEPT | 18 3 24 | 17 19 35 | | SEPT | 15 18 34 | 16 0 25 |
| ţ | 0 | 2 21 46 | 3 0 52 17 6 14 | ļ | Ocr | 15 7 18 | 15 13 43 |
| 1 | Oct. | 16 1 50 | | | Nov. | 13 20 2 | 14 2 2 |
| | Nov. | 16 4 52 | 15 18 50 15 9 23 | | DEC. | 13 8 46 | 13 13 27 |
| | DEC | 15 17 36 | 15 9 23 | | | | |
| | _ | | | 765. | JAN. | ∫11 21 30 | 1 |
| 768. c. | JAN | 14 6 20 | 14 1 33 | G.F. | _0 | (26 15 52 | 1 |
| 1 | FEB | 12 19 4 | 12 18 42 | | FEB. | | 10 9 47 |
| 29 2 80 | MAR. | (14 7 49 | 14 11 51 | 28 19 56 | MAR. | | 10 19 17 |
| | . 0 | 29 2 11 | 29 3 35 | | APRIL | 9 11 43 | 9 5 5 |
| | APRIL | 12 20 33 | 13 3 59 | | MAY | | 8 16 4 |
| | MAY . | 12 9 17 | 12 18 23 | | JUNE . | | 7 4 46 |
| | JUNE. | 10 22 1 | 11 6 41 | | JULY . | 1) | 1 |
| | July. | 10 10 45 | 10 17 14 | | 0 | 21 20 17 | |
| | Aug | 8 23 29 | 9 2 41 | | Aug. | J | |
| | SEPT | $\begin{cases} 7 & 12 & 13 \\ 20 & 6 & 25 \end{cases}$ | 7 11 55 | | SEPT. | | i . |
| İ | | 22 6 35 | 22 0 38 | | Oct. | 3 16 7 | 3 21 19 |
| | Oct | 7 0 57 | 6 21 36 | | Nov. | 2 4 51 | |
| | Nov. | 5 13 41 | 5 8 8 | | DEC. | $\begin{cases} 1 & 17 & 35 \\ 21 & 6 & 16 \end{cases}$ | |
| | DEC | 5 2 25 | 4 19 43 | | | (81 6 19 | 31 15 32 |
| | | 1 | 1 | H | 1 | 1 | 1 |

| | C-1-parter outsigned. | | | AMERICAN SERVICE STATE AND ASSESSED. | Nation of the second of the se | 4 MICH 1988 41 - AVA NO. | na y y na z najmunijednom sven |
|-------------------|--|-------------------|-----------------|--------------------------------------|--|-----------------------------------|--------------------------------|
| Mean Vernal | Month. | Mean New Moon. | Moon. | Mean Vernal Equinox. | Month. | Monn New Moon (C Full Ecl.) | Maciti, |
| Equinox. | * revenues associates de la companya del companya de la companya de la companya del companya de la companya del la companya de | (O Full Ecl.) | (C) P (LI MOIL) | endamov. | 1171 | 1 | |
| ъ. | | d. h. m. | d. h. m. | B.C. 761. | | d. h. m. | d. h. m. |
| B.C. 764, | 0 | (15 0 41 | 14 22 11 | H.A. | JAN | 27 10 12 | 27 19 55 |
| E. | JAN | 29 19 8 | 80 2 4 | Murch. | FER. | 25 22 56 | 26 12 1 |
| March. $d. h. m.$ | F KB | 28 7 47 | 28 11 7 | 29 19 12 | MAR. | 26 11 41 | 27 1 7 |
| 29 1 45 | MAR | 29 20 81 | 29 19 14 | | Aran | 25 0 25 | 25 11 20 |
| | April | 23 9 15 | 28 8 16 | | , , | 9 18 47 | 9/11/32 |
| | MAY . | 27 21 59 | 27 12 14 | | MAY . | 121 18 9 | 21 19 26 |
| | June . | 26 10 48 | 25 28 5 | | JUNE . | 28 1 58 | 28 2 30 |
| | 0 | (11 5 6 | 11 10 10 | | July . | 22 14 87 | 22 9 88 |
| | July . | 25 28 27 | 25 12 29 | | Aug | 21 8 21 | 20 17 50 |
| | Aug | 24 12 11 | 24 4 26 | | Выч | | 19 8 56 |
| | SEPT | 28 0 55 | 22 22 17 | | Ocr | 19 4 49 | 18 16 82 |
| | Oct | 22 18 89 | 22 16 52 | | n | 1 2 28 11 | 8 7 9 |
| | Nov | 21 2 28 | 21 10 44 | | Nov | (17 17 88 | 17 7 42 |
| | DEC | 20 15 7 | 21 2 47 | i | DEC. | 17 6 17 | 17 1 8 |
| | | (4 9 29 | 4 2 28 | | | | |
| 763. | JAN. | 19 8 51 | 19 16 20 | 7ē0. | JAN | 15 19 1 | 15 19 32 |
| D. | FEB | 17 16 85 | 18 8 18 | a. | Fки | 14 7 45 | 14 18 49 |
| 29 7 81 | MAR. | 19 5 20 | 19 12 8 | 29 1 1 | MAR. | 15 20 80 | 16 6 86 |
| | APRIL | 17 18 4 | 17 19 82 | | Arun, | \$14 9 14 | 14 20 MH |
| | MAY . | 17 6 48 | 17 2 80 | | 0 | £29 8 86 | 28 19 47 |
| | JUNE . | 15 19 82 | 15 10 6 | | MAY . | 18 21 58 | 14 H 40 12 1H 1B |
| | JULY . | 15 8 16 | 14 19 27 | | June . | 12 10 42 | 12 18 18 |
| 1 | Aug | 18 21 0 | 18 7 27 | | July . | 10 12 10 | 10 10 26 |
| | SEPT | 12 9 44 | 11 22 29 | | SEPT. | 9 0 54 | 8 19 8 |
| 1 | Oct | 11 22 28 | 11 16 18 | | Ост. | (8 18 88 | H 4 59 |
| | Nov | 10 11 12 | 10 11 81 | | 0 | 28 8 0 | 28 18 86 |
| | DEC | 9 28 56 | 10 6 46 | | Nov | 7 2 22 | 6 16 89 |
| 700 | _ | 5 45 45 | 0 0 00 | | Drc. | 6 15 6 | 6 6 9 |
| 762. c. | JAN. | 8 12 40 | 9 0 28 | | , | | |
| 29 18 28 | FEB | 7 1 24 8 14 8 | 7 15 17 | 759. | JAN | 5 8 50 | 4 21 23 |
| 20 10 20 | MAR. | 8 14 8 | 9 8 8 7 12 20 | 7. | FER. | 8 16 84 | 8 18 52 |
| | MAY . | (6 15 86 | 6 19 44 | 29 6 49 | MAR. | 5 5 18 | 5 6 58 |
| | MAY. | 21 9 58 | 21 9 80 | | APRIL | 8 18 2 | 8 28 29 |
| | JUNE . | 5 4 20 | 5 2 28 | | MAY . | 8 6 46 | 8 14 46 |
| | JULY . | 4 17 4 | 4 9 22 | | Junn . | 1 19 80 | 2 4 0 |
| | Aug. | 8 5 48 | 2 17 48 | | T | f 1 8 14 | 1 15 42 |
| | SEPT. | 1 18 82 | f 1 4 87 | | July . | 80 20 68 | 81 1 49 |
| | | (1 7 16 | | | Aug | 29 9 42 | 20 11 10 |
| | Oct | 80 20 0 | 80 11 8 | | SEPT | 27 22 26 | 27 20 55 |
| | 0 | (14 14 22 | | | Ocr | 27 11 10 | 27 7 9 |
| | Nov | 129 8 44 | | | Nov | 25 28 54 | 25 18 14 |
| | DEC | 23 21 28 | 29 1 27 | | DEC | 25 12 88 | 25 6 14 |
| 1 | | 1 | 1 | i i | 1 | 1 | P |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) |
|------------------------------|--------------|---|-----------------------------------|--|--------------|---|-----------------------------|
| B.C. 758. E. March. | JAN Feb | d. h. m. 24 1 22 22 14 6 | d. h. m. 23 19 11 22 9 10 | B.C. 755. A. March. d. h. m. | Jan Feb | d. h. m. 20 16 32 19 5 16 | d. h. m. 21 1 17 19 10 52 |
| d. h. m. | 0 | 9 8 28 | 9 19 50 | 29 6 5 | MAR | 20 18 1 | 20 19 11 |
| 29 12 38 | MAR. | 24 2 51 | 24 0 6 | | APRIL | 19 6 45 | 19 2 57 |
| | APRIL | 22 15 35 | 22 15 35 | | MAY. | 18 19 29 | 18 11 10 |
| | MAY . | 22 4 19 | 22 7 5 | | JUNE. | 17 8 13 | 16 20 52 |
| | JUNE. | 20 17 3 | 20 21 55 | | JULY. | 16 20 57 | 16 8 56 |
| | Jura. | 20 5 47 | 20 11 38 | } | Aug | 15 9 41 | 14 23 42 |
| | Aug | 18 18 31 | 19 0 10 | ŀ | SEPT. | 13 22 25 | 13 16 54 |
| | ~ 0 | $\begin{cases} 2 & 12 & 53 \\ 17 & 7 & 7 \end{cases}$ | 1 22 59 | | Oct | 13 11 9 | 13 11 27 12 6 2 |
| | SEPT. | 17 7 15 | 17 11 47 | | Nov. | 11 28 58 | 11 23 14 |
| | Oct. | 16 19 59 | 16 22 54 15 9 49 | | DEC | $\begin{bmatrix} 11 & 12 & 37 \\ 26 & 6 & 59 \end{bmatrix}$ | 25 23 33 |
| | Nov. | 15 8 48 14 21 27 | 15 9 49 14 20 39 | | | \20 Q 00 | 20 20 00 |
| | DEC | 14 21 21 | 14 20 33 | 754. | JAN. | 10 1 21 | 10 14 5 |
| 757. | JAN | 13 10 11 | 13 7 28 | G. | FEB | 8 14 5 | 9 2 15 |
| D.C. | FEB | ∫11 22 55 | 11 18 23 | 29 11 54 | MAR. | 10 2 50 | 10 11 56 |
| | 0 | 26 17 17 | 27 7 17 | | APRIL | 8 15 34 | 8 19 48 |
| 23 18 27 | MAR | 12 11 40 | 12 5 50 | | MAY . | 8 4 18 | 8 2 45 |
| | APRIL | 11 0 24 | 10 18 16 | | June . | 6 17 2 | 6 9 50 |
| | MAY . | 10 13 8 | 10 7 57 | | 0 | 21 11 24 | 21 18 14 |
| l | June . | 9 1 52 | 8 22 52 | | JULY . | 6 5 46 | 5 18 10 |
| | July. | 8 14 36 | 8 14 29 | | Aug. | 3 | 1 |
| | Aug | 7 3 20 | L. | | SEPT. | 1 | |
| | 0 | (21 21 42 | | | Oct. | . 2 19 58 | 1 |
| | SEPT. | 5 16 4 | | 1 | Nov. | 1 8 42 | 1 1 |
| | Ocr | 5 4 48 | | | 1.01. | (20 21 20 | 11 |
| | Nov. | 3 17 32 | 1 | 1 | _ 0 | 15 15 48 | / |
| | DEC | 8 6 16 | | 4 | DEC. | . (30 10 10 | 30 19 53 |
| 756. B. | JAN | { 1 19 (81 7 4 | | 750 | Jan. Feb. | . 28 22 54 . 27 11 38 | |
| | FEB | (1 20 2 | 3 1 18 39 | 28 17 4 | 3 Mar. | . 28 0 29 | |
| 29 0 10 | MAR | 81 9 19 | | . 11 | APRI | ւ 26 13 (| 6 26 19 57 |
| | | 20 01 5 | | 11 | May | . 26 1 5 | |
| | APRIL MAY | 20 40 4 | | 11 | 0 | § 9 20 1 | |
| | June . | 27 20 0 | | II . | June | | |
| | July . | | 3 27 6 45 | 11 | July | | |
| | 0 | (11 6 8 | | 11 | Aug. | . | 2 22 2 47 |
| | Aug. | 1300 0 5 | | 3 | SEPT. | | _ |
| | SEPT. | | | ι | Ост. | . 20 17 3 | |
| | Oct. | 24 2 2 | 1 | 3 | Nov. | | |
| | Nov. | | 4 23 0 3 | 3 | 0 | 4 0 8 | |
| | DEC. | . 22 3 4 | 8 22 13 5 | 7 | DEC. | . \\\18 18 5 | 10 10 11 |
| | 1 | | | | | 1 | |

| | | 1 | 1 | manus administration a reflect to 100 to 100 | | 1 | · di latabur e sagge |
|----------------------------|---|----------------|-----------------------------------|--|-----------------------|----------------|----------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Monn New Moon, | True New Moon. Moon. Full Ecl.) |
| B.C. 752. | and a colonia proper colonia colonia colonia colonia colonia colonia colonia colonia colonia colonia colonia co | d. h. m. | d. h. m. | B.C. 749. | Carpet Manager of all | d. h. m. | d. h. m. |
| March. | JAN | 17 7 42 | 17 14 45 | March. | JAN | 14 22 52 | 14 16 48 |
| d. $h.$ $m.$ | FEB | 15 20 26 | 16 8 4 | d. h. m. | Fru | 13 11 36 | 18 5 58 |
| 28 23 82 | MAR | 17 9 11 | 17 22 88 | 28 16 58 | MAR | [14 0 21] | 18 20 8 |
| | APRIL | 15 21 55 | 16 10 11 | | 6.3 | (5H 1H 4B | 29 4 7 |
| | MAY. | 15 10 89 | 15 18 85 | | APRIL | 12 18 5 | 12 11 9 |
| | June . | 13 28 23 | 14 2 45 | | MAY . | 12 1 49 | 12 2 87 |
| | July. | 18 12 7 | 18 9 49 | | JUNE. | 10 14 83 | 10 17 58 |
| i | Aug | 12 0 51 | 11 17 81 | | July. | 10 8 17 | 10 8 21 |
| | SEPT | 10 18 85 | 10 2 48 | | Aug | 8 16 1 | 8 21 14 |
| | Ocr | 10 2 19 | 9 11 7 | | SEPT | 1 7 4 45 | 7 10 4 |
| | Nov | 8 15 8 | 8 4 2 | | () | 121 23 7 | 21 10 9 |
| | Drc | 8 8 47 | 7 20 17 | | Ocr | 6 17 29 | 6 21 39 |
| | | | | | Nov | 5 6 18 | K H 49 |
| 751. | JAN | 6 16 81 | 6 14 9 | | DEC | 4 18 57 | 4 19 45 |
| c. | FED | 5 5 15 | 5 8 81 | | | | |
| 29 5 21 | MAR | 6 17 59 | 7 2 1 | 748. | JAN | 8 7 41 | 8 6 27 |
| | APRIL | 5 6 48 | 5 17 81 | F. | FEB | 1 20 25 | 1 17 5 |
| 1 | 0 | 120 1 5 | 19 19 18 | 23 22 47 | MAR. | 13 10 11 | 8 8 54 |
| | MAY . | 4 19 27 | 5 6 85 | | Armi | 1 21 68 | 1 45 29 |
| | JUNE . | 8 8 11 | 8 17 18 | | M | f 1 10 87 | 1 4 18 |
| | July . | 2 20 55 | 8 2 8 | | MAY . | 180 28 21 | 30 18 81 |
| | A | f 1 9 89 | 1 10 19 | | JUNE. | 29 12 5 | 20 0 62 |
| | Aug | 180 22 28 | 80 18 42 | | Juny . | 29 0 49 | 20 1 45 |
| | SEPT. | 29 11 7 | 29 4 5 | | Ava | 27 18 83 | 27 17 28 |
| | 0 | ∫14 5 29 | 14 8 48 | | SEPT | 26 2 17 | 26 H 28 |
| | Ocr | रि28 28 51 | 28 14 55 | | Oct | 25 15 1 | 25 22 14 |
| | Nov | 27 12 85 | 27 8 29 | | Nov. | 21 8 45 | 24 10 52 |
| | DEC | 27 1 19 | 26 17 44 | | DEC | 28 16 29 | 28 22 20 |
| 750. | JAN | 25 14 8 | 25 9 24 | 747. | JAN | 22 5 14 | 22 8 80 |
| в. | FEB | . 24 2 47 | 24 2 0 | E. | 0 | f 5 28 86 | 6 6 9 |
| 29 11 9 | MAR. | 25 15 82 | 25 18 48 | | FEB. | 20 17 58 | 20 18 2 |
| | 0 | 9 9 54 | 9 11 17 | 20 4 86 | MAR. | 22 6 42 | 22 8 1 |
| | APRIL | 21 4 16 | 21 10 88 | | APRIL. | 20 19 26 | 20 12 21 |
| | MAY. | . 28 17 0 | 24 1 2 | 1 | MAY . | 20 8 10 | 19 22 55 |
| | June . | . 22 5 44 | 22 18 87 | | June . | 18 20 54 | 18 11 26 |
| | JULY . | . 21 18 28 | 22 0 85 | | July . | 18 9 88 | 18 2 5 |
| | Aug. | . 20 7 12 | 20 10 88 | | 0 | 1 2 4 0 | 2 1 57 |
| | SEPT. | . 18 19 56 | 18 20 16 | | Aug | 16 22 22 | 10 18 81 |
| | 0 | 8 14 18 | | | SEPT | 15 11 8 | 1 |
| | Ocr. | . 18 8 40 | 18 6 20 | | Oct | 14 28 50 | 15 5 17 |
| | Nov. | . 16 21 21 | 16 17 8 | | Nov. | 1 | |
| | DEC. | . 16 10 8 | 16 4 81 | | DEC. | 18 1 18 | 18 11 52 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Full Ecl.) |
|--|---|--|--|--------------------------------------|---|--|--|
| B.C. 746. D. March. d. h. m. 29 10 21 745. C.B. | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG . SEPT OCT NOV DEC JAN. O FEB MAR . APRIL MAY . JUNE . JUNE . JUNE . JUNE . OCT | d. h. m. {11 14 | d. h. m. 12 0 12 26 5 57 10 10 28 11 19 9 10 2 54 9 10 36 7 19 20 7 6 5 22 17 42 5 19 33 4 11 42 4 5 54 3 0 49 2 19 0 1 11 10 15 10 39 31 0 37 29 11 23 29 19 55 28 3 5 27 9 53 25 17 26 25 2 50 23 14 55 22 6 7 22 0 2 | B.C. 743. G. March. d. h. m. 29 3 50 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV DEC JAN FEB MAR . APRIL O MAY JUNE JULY AUG. SEPT. OCT. | d. h. m. 8 5 13 6 17 57 8 6 41 6 19 25 { 6 8 9 { 21 2 31 4 20 53 4 9 37 2 22 21 { 1 11 5 { 30 23 49 30 12 33 { 14 6 55 { 29 1 17 28 14 1 27 2 45 25 15 29 27 4 13 25 16 57 { 10 11 19 25 5 41 23 18 25 23 7 9 21 19 53 | d. h. m. 8 9 15 7 3 31 8 19 26 7 8 23 6 18 36 20 18 15 5 2 48 4 10 3 2 17 27 1 1 58 30 12 19 30 1 1 14 15 45 28 16 5 28 9 6 27 3 11 25 21 4 27 18 34 26 3 50 10 3 22 25 15 40 24 1 28 23 10 4 21 18 27 20 3 29 19 13 41 |
| 744. a. 28 22 - 2 | APRII MAY JUNE JULY AUG. SEPT. OCT. NOV. | 20 7 39 18 20 24 17 9 8 18 21 52 17 10 36 16 23 20 15 12 4 13 13 33 12 2 16 11 15 6 | 17 28 9 19 10 50 5 17 19 58 11 16 58 14 16 58 11 12 34 11 12 34 11 12 34 11 2 35 14 16 25 3 5 15 16 16 16 16 16 16 16 16 16 16 16 16 16 | 741. E.D. 28 15 28 | Jan. Feb. | . 15 0 18 . 15 13 2 . 14 1 46 . 13 14 30 . 12 3 14 . 11 15 58 . 10 4 45 . 8 17 26 . 8 6 10 | 17 14 41 16 5 28 14 21 25 15 13 54 14 6 8 18 21 21 12 10 56 11 22 55 10 9 86 8 19 8 8 5 8 4 6 16 |

| Mean Vernal | Month. | Mean New | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------|--|--|---|---|---|---|--|
| | Jan FEB MAR O APRIL MAY . JUNE . | Moon. (O Full Ecl.) d. h. m. 4 20 28 8 9 7 { 4 21 51 19 16 18 3 10 35 2 23 19 1 12 3 { 1 0 47 30 13 31 | Moon. Full Ecl.) d. h. m. 4 14 52 3 3 19 4 16 40 20 3 39 3 7 0 2 22 7 1 13 31 1 4 35 30 18 46 | B.C. 737. G.F. March. d. h. m. 28 14 44 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG | d. h. m. 2 11 32 1 0 16 { 1 13 0 81 1 44 29 14 28 29 3 12 27 15 56 27 4 40 25 17 24 | d. h. m. 2 22 36 1 9 47 1 19 3 31 2 58 29 10 25 28 18 21 27 8 56 26 16 0 25 6 55 |
| | Aug O SEPT Oct Nov Dec | 29 2 15 {12 20 37 {27 14 59 27 3 43 25 16 27 25 5 11 | 29 7 53 12 6 49 27 20 6 27 7 89 25 18 48 25 5 34 | 736. E. | OCT Nov DEC O JAN | 24 6 8 23 18 52 22 7 36 21 20 20 5 14 42 (20 9 5 | 24 0 22 23 19 16 22 14 8 22 7 81 5 8 0 20 22 28 |
| 739. B. | Jan Feb O Mar | 23 17 55 22 6 39 5 1 1 23 19 23 | 23 16 2 22 2 26 9 14 8 23 13 17 | 28 20 32 | FEB MAR APRIL MAY . | 19 21 49 20 10 38 18 23 17 18 12 1 | 19 10 21 20 19 48 19 3 25 18 10 11 |
| | APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 22 8 7 21 20 51 20 9 35 19 22 19 18 11 3 2 5 25 (16 23 47 16 12 31 15 1 15 14 13 59 | 22 1 11 21 14 32 20 5 20 19 21 10 18 13 16 1 18 2 17 4 56 16 19 38 15 9 5 14 21 12 | | JUNE. O JULY. AUG SEPT OCT Nov DEC | 17 0 45 { 1 19 7 {16 18 29 15 2 18 18 14 57 18 3 41 11 16 25 {11 5 9 25 28 81 | 16 17 12 2 1 1 16 1 32 14 12 16 18 1 59 12 18 48 11 13 87 11 9 14 25 21 16 |
| 738. | Jan Feb | 13 2 44 | 13 7 59 11 17 37 | 735. D. 29 2 21 | JAN FEB MAR APRIL | 9 17 54 8 6 38 9 19 22 8 8 6 | 10 3 51 8 20 3 10 9 11 8 19 24 |
| 29 8 55 | MAR APEIL MAY . JUNE . JULY . AUG O SEPT. OCT. | 13 4 12 11 16 56 11 5 40 9 18 24 9 7 8 { 7 19 52 { 22 14 14 6 8 36 5 21 20 | 10 20 58 9 8 18 8 21 52 7 13 36 22 10 0 6 6 52 6 0 37 | | MAY . JUNE . O JULY . AUG SEPT. OCT. Nov. | 7 20 50 6 9 34 21 3 56 5 22 18 4 11 2 2 28 46 2 12 30 | 21 2 55 5 17 4 4 0 54 2 10 44 { 1 23 14 { 81 14 38 |
| | Nov. Dec. | 2 22 45 | | 11 | O DEC. | 15 8 20 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equirox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------|----------------------------|--------|------------------------------------|-----------------------------|
| B.C. 734. c. | Jan | d. h. m. 28 15 26 | d. h. m. 28 22 23 | B.C. 731. F. | Jan | d. h. m. 25 6 36 | d. h. m. 25 1 8 |
| March. | FEB. | 27 4 10 | 27 15 28 | March. d . h . m . | FEB | 23 19 20 | 28 13 43 |
| d. h. m. 29 8 10 | MAR. | 28 16 54 | 29 5 52 | d. h. m. 29 1 36 | MAR. | 25 8 4 | 25 3 15 |
| | APRIL | 27 5 38 | 27 17 23 | | 0 | (9 2.26 | 9 11 45 |
| | MAY. | 26 18 22 | 27 2 30 | | APRIL | 23 20 48 | 23 17 47 |
| | JUNE . | 25 7 6 | 25 10 12 | | MAY. | 23 9 32 | 23 9 2 |
| | July . | 24 19 50 | 24 17 32 | | JUNE. | 21 22 16 | 22 0 23 |
| | Aug. | 23 8 34 | 23 1 33 | | July. | 21 11 0 | 21 15 15 |
| | SEPT. | 21 21 18 | 21 11 3 | | Aug. | 19 23 44 | 20 5 11 |
| | Ocr. | 21 10 2 | 20 22 37 | | SEPT. | 18 12 28 | 18 18 8 |
| | Nov. | 19 22 46 | 19 12 29 | | 0 | (3 6 50 | 2 18 5 |
| | | 19 11 30 | 19 4 29 | | Oct. | 18 1 12 | 18 6 15 |
| | DEC | 13 11 50 | 10 1 20 | | Nov. | 16 13 56 | 16 17 44 |
| 1 | | | | | DEC. | 16 2 40 | 16 4 40 |
| 733. | JAN. | 18 0 15 | 17 21 59 | | 220. | | |
| B.A. | FEB | 16 12 59 | 16 15 53 | 700 | T | 14 15 25 | 14 15 10 |
| 28 18 59 | MAR. | | 17 9 2 | 730. E. | JAN | 13 4 9 | 13 1 20 |
| | APRIL | () | 16 0 24 | 1 | FEB. | 14 16 53 | 14 11 37 |
| | 0 | (30) 8 49 | 1 | 29 7 25 | Mar. | 13 5 37 | 12 22 39 |
| 1 | MAY | | 15 13 28 | | APRIL | | 12 11 1 |
| | June | 1 | | | MAY . | | 11 1 2 |
| | July | 1 | 1 | | JULY | 40 40 40 | 10 16 28 |
| | Aug. | | | | | 0 0 00 | |
| | SEPT. | | | 11 | Aug. | | |
| | Oct. | 9 18 5 | | - 11 | SEPT. | • • | |
| 1 | 0 | 21 13 1 | | - 11 | Nov. | | 1 |
| | Nov. | 1 | | - 11 | DEC. | | |
| | DEC. | . 7 20 19 | 9 7 12 12 | : | DEC. | . 0 11 20 | |
| | | | | 729. | Jan. | 4 0 14 | 4 7 9 |
| 732. | JAN. | | $4 \mid 6 \mid 2 \mid 5$ | 70.0 | FEB. | 2 12 5 | |
| G. | FEB. | | 1 | ² | 0 | 17 7 2 | 1 |
| 28 19 49 | MAR. | 1 | | بممسمداأ | | | |
| | APRI | 1, | | - II | APRI | | 1 |
| | 0 | (19 17 8 | | - 11 | ZIMI | (1 31 | 11 90 10 95 |
| | MAY | | 0 4 17 1 | 11 | MAY | | |
| | June | | | | June | 100 40 | |
| | July | | | 2 | July | 20 17 0 | 2 28 8 55 |
| | Aug | $\begin{cases} 1 & 2 \end{cases}$ | | - 11 | 0 | (12 11 4 | |
| | | (80 14 | | 11 | Aug | 13.77 0 | 6 27 1 41 |
| | SEPT | | | 11 | SEPT | 10 = 40 = | 0 25 19 3 |
| | _ 0 | 13 22 | 2 13 15 5 | . 11 | OCT. | | 31 25 13 20 |
| | Oct. | ' | 1 | . 11 | Nov | 00 00 7 | |
| | Nov | 00 457 | | 1 | DEC. | 1 | 2 23 20 29 |
| 1 | DEC. | . 26 17 | | | | | |

| | | i i | - 11 | | | i 1 | m >* |
|-------------------|--------|---------------------|---------------------|----------------------------|--------------|------------------------------------|---------------------|
| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| Equinox. | | (O Full Ect.) | | Equilox. | | | |
| D 0 | | d. h. m. | d. h. m. | B.C. 725. | | d. h. m. | d. k. m. |
| B.C. 728. | Jan | 21 21 46 | 22 8 42 | F.E. | JAN . | 19 12 56 | 19 16 56 |
| в. | 0 | (5 16 8 | 5 13 31 | March. $d. h. m.$ | FEB | 18 1 40 | 18 10 55 |
| March. $d. h. m.$ | FEB | 20 10 30 | 20 18 45 | 28 12 29 | MAR | 18 14 24 | 19 2 37 |
| 28 19 3 | MAR | 21 23 14 | 22 3 5 | | APRIL | 17 3 S | 17 15 81 |
| | APRIL | 20 11 58 | 20 10 28 | | MAY . | (16 15 52 | 17 1 47 |
| | MAY. | 20 0 42 | 19 17 54 | | 0 | (81 10 14 | 81 0 59 |
| | June. | 18 13 26 | 18 2 28 | | June . | 15 4 36 | 15 10 7 |
| 4 | July. | 18 2 10 | 17 13 12 | | July. | 14 17 20 | 14 17 89 |
| | 0 | S 1 20 32 | 2 1 17 | | Aug | 13 6 4 | 13 1 28 |
| 1 | Aug | (16 14 54 | 16 2 43 | | SEPT | 11 18 48 | 11 10 14 |
| | SEPT | 15 3 38 | 14 19 7 | | Ocr | 11 7 82 | 10 20 50 |
| | Oct. | 14 16 22 | 14 13 35 | | Nov | 9 20 16 | 9 9 81 |
| | Nov | 13 5 6 | 13 8 48 | | 0 | 124 14 39 | 25 0 20 |
| | DEC | 12 17 50 | 13 3 12 | | DEC | 9 9 0 | 9 0 26 |
| 727. | JAN | (11 6 35 | 11 19 25 | 724. | _ | | |
| Α. | 0 | 26 0 57 | 25 18 49 | D. | JAN | 7 21 44 | 7 17 5 |
| | FEB | 9 19 19 | 10 8 46 | 28 18 18 | FEB. | 6 10 29 | 6 10 42 8 4 9 |
| 29 0 52 | MAR | 11 8 3 | 11 19 18 | 20 10 10 | MAR | 7 23 13 6 11 57 | 6 20 28 |
| 1 | APRIL | 9 20 47 | 10 3 36 | | MAY. | 6 0 41 | 6 10 37 |
| | MAY. | 9 9 31 | 9 10 35 | | 0 | 20 19 3 | 20 10 83 |
| | June. | 7 22 15 | 7 17 18 | | JUNE . | 4 13 25 | 4 22 88 |
| | JULY. | ∫ 7 10 59 | 7 0 51 | | JULY. | 4 2 9 | 4 8 44 |
| | 0 | (22 5 21 | 22 11 9 | | Aug | 2 14 53 | 2 17 48 |
| 1 | Aug | 5 23 43 | 5 10 20 | | _ | (1 3 37 | 1 2 38 |
| , | SEPT | 4 12 27 | 3 22 35 | | SEPT | 180 16 21 | 80 12 8 |
| | Nov. | 4 1 11 2 13 55 | 3 13 56 2 7 57 | | Ocr | 80 5 5 | 29 22 80 |
| | 1101. | (2 2 30 | 2 3 27 | | 0 | ∫18 28 27 | 14 5 48 |
| | DEC | 31 15 28 | 31 22 43 | | Nov | 128 17 49 | 28 10 12 |
| | | (02 10 10 | OT 20 | | DEC | 28 6 83 | 27 28 18 |
| 726. | JAN | 30 4 7 | 30 16 11 | | | | |
| G. | FEB | 28 16 52 | ſ 1 6 50 | 723. | JAN | 26 19 17 | 26 18 29 |
| 20 6 41 | MAR. | 30 5 36 | (30 18 23 | С. | FEB | 25 8 1 | 25 4 48 |
| | APRIL | 28 18 20 | 29 3 21 | 20 0 7 | MAR. | 26 20 45 | 26 20 46 |
| | MAY. | 28 7 4 | 28 10 38 | 1 | APRIL | 25 9 29 24 22 18 | 25 12 42 |
| | JUNE . | 26 19 48 | 26 17 21 | | MAY . June . | 24 22 13 23 10 57 | 25 8 52 23 17 48 |
| | JULY . | 26 8 32 | 26 0 39 | | JULY. | 22 23 41 | 23 17 48 |
| | SEPT. | 24 21 16 23 10 0 | 24 9 29 22 20 42 | | Aug. | | 21 17 17 |
| | OCT. | 22 22 44 | 22 10 43 | | SEPT | 20 1 9 | 20 8 50 |
| 1. | Nov. | | 21 3 24 | | Oct. | 10 10 70 | 19 14 19 |
| | 0 | 6 5 50 | | | Nov. | 18 2 37 | 18 1 2 |
| | DEC | 21 0 12 | | | DEC. | 17 15 21 | 17 12 0 |
| 1 | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox, | Month. | Mean New Moon. | True New Moon. O Full Ecl.) |
|---|--|--|--|---|--|---|---|
| B.C. 722. B. March. d. h. m. 29 5 56 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov | d. h. m. 16 4 6 14 16 50 {16 5 34 {80 23 56} 14 18 18 14 7 2 12 19 46 12 8 30 10 21 14 { 9 9 58 21 4 20 8 22 42 7 11 26 | d. h. m. 15 23 24 14 11 18 16 0 1 31 11 17 14 13 49 14 4 36 12 19 58 12 11 18 11 1 58 9 15 48 23 14 45 9 4 30 7 16 28 | B.C. 719. E. March. d. h. m. 28 23 22 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 12 19 16 11 8 0 12 20 44 11 9 28 10 22 12 9 10 56 8 28 40 7 12 24 6 1 8 5 13 52 4 2 36 3 15 20 | d. h. m. 13 7 8 11 18 8 13 3 5 11 10 40 10 17 49 9 1 36 8 11 6 6 23 13 5 14 18 5 8 0 4 3 10 3 22 16 5 2 15 43 |
| 721. A.G. 28 11 45 | DEC. JAN. FEB. | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 7 3 45 5 14 23 4 0 29 4 10 23 19 22 10 7 2 20 40 1 2 2 8 1 3 21 9 30 11 5 8 30 3 5 7 28 20 3 9 12 2 1 31 27 12 4 5 27 4 | 29 5 11 5 8 8 8 6 6 1 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 | JAN. C FER. APRI MAY JUNE O JULY AUG. SEPT OCT. NOV. DEC. | 16 22 27 31 16 49 | 7 16 16 27 1 6 31 8 2 18 20 7 1 3 32 1 30 10 58 5 29 17 37 9 28 0 38 11 8 7 22 18 27 9 5 17 25 19 56 11 24 9 49 24 2 39 9 22 21 37 58 27 11 11 |
| 720. F. 28 17 | Apr Man Jun Jul Aud C Ser Oct | 23 10 9 21 23 1 23 11 22 0 3 | 27 28 16 3 11 22 1 3 38 9 1 5 55 28 10 39 21 18 28 21 3 7 19 15 51 19 4 35 17 20 57 1 18 19 16 14 3 16 8 | 43 28 11 19 42 59 8 41 36 12 14 27 59 | JAN FEB MA: API MA JUE C JUE AU SEE OCC NCC | 21 1 19 14 R. 20 3 RIL 18 15 Y 16 17 O 1 11 O 2 | 5 20 16 43 49 19 2 49 33 18 10 47 17 16 17 43 39 1 9 25 5 1 16 0 41 45 12 18 50 18 12 7 25 1 10 16 3 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month, | Menn New Moon. | True New Moon. |
|--|----------------------------------|------------------------------------|----------------------|----------------------------|--------------------------|--|--|
| B.C. | As mentioner transfer image as a | d. h. m. | d. h. m. | B.C. | - Acres - Marked Market | d. h. m. | d. h. m. |
| 716. | ~ | | | 713. | | | |
| March. | JAN | 9 10 26 | 9 11 22 | E.D. March. | JAN | 7 1 86 | 6 22 1 |
| d. h. m. | FEB | 7 28 10 | 8 5 52 | d. h. m. | len | 5 14 20 | 5 9 22 |
| 28 16 49 | MAR | 9 11 54 | 9 22 41 | 28 10 15 | MAR | 6 8 4 | 5 21 20 |
| | APRIL | 8 0 88 | 8 12 58 | | Armin | f 4 15 48 | 4 10 17 |
| | MAY. | 7 18 22 | 8 0 29 | | () | 119 10 10 | 19 19 17 |
| | June. | 6 2 6 | 6 9 45 | | MAY . | 4 4 82 | 4 0 25 |
| | July. | 5 14 50 | 5 17 41 | | June . | 2 17 16 | 2 15 29 |
| | Aug | 4 8 84 | 4 1 22 | | July . | f 2 6 0 | 2 6 58 |
| | SEPT | 2 16 18 | 2 9 44 | | 0 6111 | (81 18 41 | 81 22 15 |
| | OUT | 1 2 5 2 | 1 19 88 | | Aug | 80 7 28 | 80 12 45 |
| | 001. | 181 17 46 | 81 7 15 | | SEPT | 23 20 12 | 29 2 20 |
| | Nov | 80 6 80 | 29 21 1 | | O | (18 14 84 | 18 2 12 |
| | DEC | 29 19 14 | 29 12 40 | | Ocr | (28 8 56 | 28 14 55 |
| | | | | | Nov | 26 21 40 | 27 2 89 |
| 715. | JAN | 23 7 59 | 28 5 40 | | DEC. , | 26 10 24 | 26 18 85 |
| G. | FEB. | 26 20 48 | 26 23 5 | | | | |
| 28 22 88 | MAR. | 28 9 27 | 28 15 58 | 712. | JAN | 24 28 8 | 04 00 46 |
| | APRIL | 26 22 11 | 27 7 8 | C. | FEB | | 21 23 46 |
| | 0 | (11 16 88 | 11 10 0 | 28 16 4 | | 28 11 58 | 23 9 80 |
| | MAY . | 26 10 55 | 26 20 19 | 20 10 3 | MAR. | 25 0 87 | 24 19 14 |
| | June . | 21 28 89 | 25 7 26 | | APRIL | 28 18 21 | 28 5 45 |
| | JULY. | 24 12 23 | 24 17 7 | | MAY. | 28 2 5 | 22 17 45 |
| | Aug. | 23 1 7 | | 1 | June . | 21 14 49 | 21 7 86 |
| ł | SEPT. | 21 18 51 | 23 2 12 21 11 29 | | July . | 21 8 88 | 20/28/10 |
| | Oct. | 21 2 85 | | | Avo. | 19 16 17 | 19 15 45 |
| | 1 | | 20 21 81 | | SEPT. | 18 5 1 | 18 8 88 |
| | Nov | 4 20 57 | 5 0 86 | | Ocr. , | 17 17 45 | 18 0 89 |
| | Nov. | 10 15 19 | 19 8 87 | | Nov. | 16 6 29 | 16 15 26 |
| | DEC | 19 4 8 | 18 20 58 | | DEC | 15 19 18 | 16 4 81 |
| 714. | JAN | 17 16 47 | 17 10 18 | 7711 | 7 | 44 5 5 5 | |
| F. | FEB. | 16 5 81 | 16 0 51 | 711. B. | JAN | 14 7 57 | 14 15 51 |
| 29 4 27 | MAR. | 17 18 15 | 17 16 15 | | FEB | {12 20 41 | 18 1 85 |
| | APRIL | 16 6 59 | 16 8 6 | 00 01 70 | . 0 | (27 15 8 | 27 20 42 |
| | 0 | (1 1 21 | 1 2 27 | 28 21 53 | Man | 14 9 25 | 14 10 9 |
| | MAY . | 15 19 48 | 15 28 41 | | APRIL | 12 22 9 | 12 18 14 |
| 1 | June . | 14 8 27 | 14 14 18 | | MAY . | 12 10 58 | 12 2 46 |
| | JULY . | 18 21 11 | 14 8 85 | | JUNE. | 10 28 87 | 10 12 46 |
| | Aug. | 12 9 55 | | | July . | 10 12 21 | 10 1 1 |
| | SEPT. | 10 22 39 | 12 15 85 11 2 41 | | Aug | § 9 1 5 | |
| | Oct. | 10 11 23 | | | 0 | 123 19 27 | |
| | 001. | 25 5 45 | 10 18 24 24 23 48 | | SEPT. | 7 18 49 | 7 8 54 |
| | Nov. | 9 0 7 | 9 0 6 | | Ocr. | 7 2 83 | 7 8 12 |
| | DEC. | 8 12 51 | | | Nov | 5 15 17 | 5 21 27 |
| | J. 171 | 0 12 31 | 8 10 58 | | DEC | 5 4 1 | 5 14 20 |
| ar or Transmission of the Control of | 1 | | | | or otherwise and and and | and the second second second second second | 2000/2000/2000/2000/2000/2000/2000/200 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) |
|---|--|--|--|---|---|--|---|
| B.C. 710. A. March. d. h. m. 29 8 42 | JAN Frei | d. h. m. 8 16 46 { 2 5 30} 16 28 52 8 18 14 2 6 58 { 1 19 42} 81 8 26 29 21 10 29 9 54 { 13 4 16} 27 22 88 26 11 22 26 0 6 24 12 50 24 1 34 22 14 18 6 8 40 | d. h. m. 4 5 0 2 17 6 16 21 3 4 2 52 2 10 53 1 17 59 31 1 13 29 9 41 28 20 26 18 8 59 27 10 5 26 2 41 25 21 25 24 16 51 24 11 20 23 3 32 6 2 53 | B.C. 707. p. March. d. h. m. 28 21 8 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG . SEPT OCT NOV O DEC JAN FEB | d. h. m. 29 20 40 28 9 24 29 22 8 28 10 52 27 23 36 {11 17 58} 26 12 20 26 1 4 24 13 48 23 2 32 22 15 16 21 4 0 { 5 22 22 {20 16 44 19 5 28 17 18 12 10 6 56 | d. h. m. 30 0 81 28 18 11 30 9 42 28 22 34 28 8 56 11 7 47 26 17 31 26 1 22 24 9 28 22 18 40 22 5 28 20 18 11 6 8 55 20 8 49 19 1 0 17 18 8 19 11 5 |
| 28 9 31 | FER MAR APRIL MAY - JUNE - JULY - O AUG SEPT OCT NOV DEC | 21 | 21 16 45 22 3 5 20 11 11 19 18 2 18 0 48 17 8 22 1 18 17 15 18 0 14 6 21 18 21 53 12 15 56 12 11 23 | 29 2 57 | MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC. | 13 22 36 12 11 20 12 0 4 (10 12 4) (25 7 1 | 18 8 6 {17 17 20 \$1 17 46 \$ 16 5 34 \$ 15 16 5 \$ 14 1 85 \$ 12 10 56 \$ 11 20 43 \$ 10 7 22 \$ 25 13 55 |
| 708. M. 23 15 20 | JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SELT- OCT. NOV. DEC. O | 9 18 19 9 2 3 7 14 47 7 8 31 5 16 15 | 7 18 1 7 0 56 5 8 28 3 17 34 3 4 58 7 1 19 2 1 1 11 36 3 16 20 49 | 10.A. 28 8 4 | JAN. FEB. MAR. APRII MAY JUNE JULY AUG. SEPT. OCT. NOV. DEC. | 7 3 4 6 4 2 5 17 1 4 5 5 3 18 4 2 7 2 8 10 2 2 1 3 2 1 2 1 2 1 2 2 | 6 21 28 7 12 6 6 3 83 5 19 18 7 4 10 24 1 4 0 38 2 13 24 9 {1 1 11 8 {30 12 17 77 29 28 9 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl. |
|----------------------------|--------|-------------------------------------|-----------------------------------|----------------------------|---------|------------------------------------|-----------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 701. | | d. h. m. | d. h. m. |
| 704. G. | т | 26 11 50 | 26 7 51 | D. C. | JAN. | 24 3 0 | 24 15 34 |
| March. | JAN. | 25 0 34 | 24 19 11 | March. | FEB | 22 15 44 | 23 2 20 |
| d. h. m. | FEB | 26 13 18 | 26 7 19 | 28 8 1 | MAR. | 23 4 28 | 23 10 58 |
| 28 14 35 | Mar | | 10 18 49 | 20 0 1 | APRIL | 21 17 12 | 21 18 16 |
| | 0 |) | 24 20 36 | | MAY . | 21 5 56 | 21 1 13 |
| | APRIL | 25 2 2 | | | June. | 19 18 40 | 19 8 53 |
| | MAY. | 24 14 46 | 24 11 6 | | JULY. | 19 7 24 | 18 18 23 |
| | June. | 23 3 30 | 23 2 28 | | | 17 20 8 | 17 6 33 |
| | JULY. | 22 16 14 | 22 18 4 | | Aug | | 15 21 51 |
| | Aug | 21 4 58 | 21 9 18 | l | SEPT | | 15 15 45 |
| | SEPT | 19 17 42 | 19 23 39 | | Oct | 15 21 36 | |
| | 0 | 5 4 12 4 | 3 22 53 | | Nov. | 14 10 20 | |
| | Ocr | 19 6 26 | 19 13 0 | | DEC | 13 23 4 | 14 6 20 |
| | Nov | 17 19 10 | 18 1 19 | 700 | - | 110 11 10 | 12 23 49 |
| | DEC | 17 7 54 | 17 12 41 | 700. B. | JAN | 12 11 48 | 1 |
| 703. | JAN | 15 20 38 | 15 23 7 | . | _ 0 | 27 6 10 | 27 0 44 |
| F. | FEB | 14 9 22 | 14 8 49 | | FEB | 11 0 32 | 11 14 29 |
| 28 20 24 | 1 | (15 22 6 | 15 18 12 | 28 13 50 | MAR. | 12 13 16 | 13 2 7 |
| 20 20 24 | MAR. | 12 | 31 5 23 | | APRIL | 11 2 0 | 11 11 9 |
| | 1 | (30 16 28 | | | MAY. | 10 14 44 | 10 18 20 |
| 1 | APRIL | 14 10 50 | 14 3 58 | | June . | 9 3 28 | 9 1 4 |
| 1 | MAY . | 13 23 34 | 13 14 56 | | JULY. | 8 16 12 | 1 |
| | JUNE . | 12 12 18 | 12 3 45 | | 0 | 23 10 34 | 1 |
| | JULY. | 12 1 2 | 11 18 30 | | Aug | 7 4 56 | 6 16 4 |
| | Aug. | | 10 10 49 | | SEPT | 5 17 40 | 5 3 4 |
| 1 | SEPT. | 12 | | | Ocr | 5 6 24 | 4 17 4 |
| Y | 0 | (23 20 52 | 1 | į | Nov | 3 19 8 | 3 10 4 |
| | Oct. | 8 15 14 | 1 | | DEC | 3 7 52 | 8 5 3 |
| | Nov. | 7 3 58 | | | | 1 | |
| | DEC. | 6 16 42 | 7 2 32 | | 1 A 7 1 | 1 20 37 | 2 1 |
| 702. | JAN. | . 5 5 27 | 5 14 45 | 699. | JAN. C | | |
| E. | FEB. | . 3 18 11 | 418 | A. | | (31 9 21 | 1 31 19 2 |
| 29 2 18 | MAR. | . (5 6 5 | 5 10 2 | : | FEB. | | |
| | 0 | 20 1 1 | 7 20 8 39 | 90 10 90 | MAR. | (1 22 | 2 11 1 |
| | APRII | 3 19 39 | 3 18 2 | 28 19 39 | WLAR. | (31 10 49 | 9 (10 |
| | MAY | . 3 8 2 | 3 3 2 2 | 2 | APRIL | 29 23 38 | 3 (30 10 |
| | JUNE | . 1 21 | 7 (1 11 8 | 3 | MAY | . 29 12 17 | 7 29 18 |
| | | (195 | $_{1}$ $(30 \ 22 \ 2$ | 2 | June | . 28 1 1 | L 28 1 1 |
| | July | 30 22 3 | | 7 | | (12 19 2 | 3 12 16 |
| | Aug. | 100 | | 11 | JULY | . 27 13 4 | 5 27 8 9 |
| | 0 | (13 5 4 | | 11 | Aug. | . 26 2 2 | 9 25 16 4 |
| | SEPT. | 12 | 3 27 21 46 | 11 | SEPT. | . 24 15 1 | 3 24 3 |
| | 0 | . 27 12 4 | | 11 | Ост. | . 24 3 5 | 7 23 15 |
| | Nov. | 1 | | 11 - | Nov. | . 22 16 4 | |
| | DEC. | | | 13 | DEC. | . 22 5 2 | |
| 1 | | | ļ | - II | 1 | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | | rue New Moon. Full Ecl.) |
|---|--|---|---|--|---|---|---|
| B.C. 698. G. March. d. h. m. 29 1 28 | O JAN. FEB. MAR. APRIL MAY. JUNE. O JULY. AUG. SEPT. OCT. MAR. APRIL MAY O JUNE JULY AUG. SEPT. OCT. | 11 14 14 10 2 58 8 15 42 9 4 26 7 17 10 7 5 5 22 0 1 5 18 3 5 7 2 8 20 | 11 15 57 11 5 33 3 9 20 48 2 8 13 14 3 9 6 10 7 22 33 4 7 13 47 6 21 17 10 8 6 3 6 2 5 14 35 6 4 0 44 10 2 10 18 34 1 20 18 | 29 0 45 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 6 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. | 17 9 19 1 15 22 3 1 17 10 47 1 | 5 17 28 |
| 696. D. 28 18 | Nov. DEC. JAN. FEB. MAR APR O MAS JUN JUL AUG SEP OCT C Nov. | 28 0 3 26 18 1 26 14 (11 9 26 3 E 21 16 22 17 T. 21 6 20 19 3 19 7 19 19 19 19 19 19 19 19 19 19 19 19 19 | 81 27 18 2 15 26 8 2 59 27 23 1 43 26 14 4 5 11 9 2 27 26 6 11 24 20 5 55 24 10 6 89 22 23 23 21 10 7 20 22 29 4 7 51 19 9 | 693. A.G. 24 14 11 28 6 9 57 44 4 4 | DEC. JAN. FEB. O MAR APR MAN JUN JUL AUG C SEP OCT NOT DEG | 25 15 41 21 4 25 9 22 47 24 17 9 28 5 58 22 18 37 21 7 21 20 20 5 3 3 11 17 21 33 17 10 17 15 28 1 | 23 1 48 22 9 57 20 19 45 20 8 0 18 22 59 3 2 8 3 17 16 20 7 17 11 0 1 16 5 85 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 689. | ~ | d. h. m. | d. h. m. |
| 692. F. | JAN | 14 0 29 | 14 13 23 | March. | JAN | 11 15 39 | 11 13 41 |
| March. | FEB | 12 13 13 | 13 1 20 | d. h. m. | FEB | 10 4 23 | 10 7 57 |
| d. h. m. | 0 | 27 7 35 | 27 4 26 | 23 5 47 | MAR | 10 17 7 | 11 1 17 |
| 28 12 21 | MAR. | 14 1 57 | 14 10 49 | | APRIL | 9 5 51 | 9 16 38 |
| | APRIL | 12 14 41 | 12 18 33 | | MAY . | 8 18 35 | 9 5 30 |
| | MAY. | 12 3 25 | 12 1 26 | | June. | 7 7 19 | 7 16 2 |
| | June. | 10 16 9 | 10 8 33 | | _ 0 | (22 1 41 | 21 14 36 |
| | July. | 10 4 53 | 9 17 0 | 7.49 | July. | 6 20 3 | 7 0 56 |
| | Aug | 8 17 37 | 8 3 48 | | Aug | 5 8 47 | 5 9 9 |
| | 0 | 23 11 59 | 23 16 47 | | SEPT | 3 21 31 | 3 17 41 |
| | SEPT | 7 6 21 | 6 17 36 | | Ост | 8 10 15 | 3 3 13 |
| | Ост | 6 19 5 | 6 10 23 | | Nov | 1 22 59 | 1 14 12 |
| | Nov | 5 7 49 | 5 5 17 | | | 1 11 48 | 1 2 52 |
| | DEC | 4 20 33 | 5 0 50 | | DEC. O | 316 6 5 | 16 17 25 |
| | | | | | | (81 0 27 | 30 17 7 |
| 691. | JAN | 3 9 18 | 3 19 22 | | | | |
| E. | FEB | J 1 22 2 | 2 11 29 | 688. | JAN | 29 13 12 | 29 8 48 |
| | 0 | 16 16 24 | 16 10 52 | Α. | FEB | 28 1 56 | 28 1 19 |
| 28 18 10 | MAR. | 3 10 46 | 4 0 34 | 28 11 86 | MAR. | 29 14 40 | 29 17 54 |
| | APRIL | 1 23 30 | 2 10 42 | 20 11 00 | APRIL | 28 3 24 | 28 9 43 |
| | M | (1 12 14 | 1 18 41 | , | MAY. | 27 16 8 | 28 0 0 |
| | MAY. | (31 0 58 | 31 1 29 | | | (11 10 80 | 11 0 59 |
| | June . | 29 13 42 | 29 8 14 | | JUNE. | 26 4 52 | 26 12 82 |
| | JULY . | 20 2 26 | 28 16 1 | | JULY. | 25 17 86 | 25 23 30 |
| | | (12 20 48 | 13 1 33 | | Aug. | 24 6 20 | 24 9 88 |
| | Aug | 27 15 10 | 27 1 49 | ii | SEPT. | 22 19 4 | 22 10 21 |
| | SEPT | 26 3 54 | 25 14 21 | | _ | 22 7 48 | 22 5 32 |
| | Oct | 25 16 38 | 25 5 57 | | Nov. | 20 20 32 | 20 16 18 |
| , | Nov. | 24 5 22 | 23 23 59 | | | | |
| | DEC | 23 18 6 | 23 19 17 | | D | 5 14 54 | 5 22 8 |
| | | | | | DEC | (20 9 16 | 20 3 47 |
| 690. | JAN. | 22 6 51 | 22 14 15 | | | | |
| D. | FEB | 20 19 35 | 21 7 24 | 687. | JAN | 18 22 0 | 18 16 2 |
| 23 23 59 | MAR. | 22 8 19 | 22 21 43 | G. | FEB | 17 10 45 | 17 5 10 |
| | APRIL | 20 21 3 | 21 9 4 | 28 17 25 | MAR | 18 23 29 | 18 19 17 |
| | May . | . 20 9 47 | 20 17 59 | | APRIL | 17 12 13 | 17 10 16 |
| | June . | . 18 22 31 | 19 1 28 | | MAY . | 17 0 57 | 17 1 41 |
| | JULY. | . 18 11 15 | 18 8 36 | | June. | 15 13 41 | 15 16 55 |
| | Aug. | . 16 23 59 | 16 16 25 | | July . | 15 2 25 | 15 7 25 |
| | SEPT. | 15 12 43 | 15 1 48 | | Aug | 13 15 9 | 18 20 50 |
| | Oct. | . 15 1 27 | 14 13 23 | | SEPT | 12 3 53 | 12 9 13 |
| | Nov. | . 13 14 11 | 13 3 27 | | Ocr | 11 16 37 | 11 20 52 |
| | DEC. | . (13 2 55 | 12 19 48 | | Nov | 10 5 21 | 10 8 4 |
| | 0 | 27 21 17 | 1 | | DEC | 9 18 5 | 9 18 59 |
| 1 | | 1 | | | | J. | |

| Mean Vernal Equinox. | Month. | Menn New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New I Moon. (O Full Ecl.) | rue New Moon. Full Ecl.) |
|--|--|---|--|--|---|--|--|
| B.C. 686. F. March. d. h. m. 28 23 14 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT. O | d. h. m. 8 6 49 6 19 33 8 8 17 { 6 21 1 21 15 23 6 9 45 4 22 29 4 11 18 2 28 57 1 12 41 (1 1 25 15 19 47 30 14 9 29 2 53 | d. h. m. 8 5 39 6 16 10 8 2 56 6 14 29 22 2 13 6 3 18 4 17 33 4 8 59 3 0 57 1 16 43 1 7 42 15 7 9 30 21 38 29 10 11 | B.C. 683. B. March. d. h. m. 28 16 40 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 4 21 59 8 10 43 4 23 27 8 12 11 8 0 55 1 13 89 | J. h. m. 5 10 30 8 23 48 5 10 21 3 18 44 8 1 48 1 8 36 30 16 14 30 1 46 28 14 6 27 5 31 26 23 36 25 19 5 25 14 19 |
| 685. R.D. 23 5 8 | DEC. JAN. FEB. MAR. O APRIL MAY JUNE OCT. NOV. DEC. JAN. FEB. MAR. O APRIL MAY JUNE JULY JU | 19 10 14 4 4 80 18 22 56 17 11 42 17 0 26 15 18 11 14 1 56 (15 14 3) 80 9 1 14 8 2: 18 16 6 12 4 5 | 24 11 18 23 21 49 22 10 26 22 1 15 20 17 52 19 11 21 3 19 8 3 19 8 3 19 4 44 2 17 20 55 3 17 11 13 1 15 23 23 1 4 9 30 9 15 18 2 1 30 15 29 8 14 1 41 7 13 9 22 1 11 18 9 | 28 4 1 | JAN O FEB MAR APRIL MAY . JUNE JULY O AUG. SEPT. OCT. NOV. DEC. JAN O FEB. MAR APRIL MAY . JUNE JULY | 23 21 0 22 9 44 21 22 28 20 11 12 19 23 56 3 18 18 18 12 40 17 1 24 16 14 8 15 2 52 14 15 36 13 4 20 27 22 42 11 17 4 12 5 48 10 18 32 10 7 16 8 20 0 | |
| | SEPT. O OCT Nov. DEC. | $ \begin{array}{c c} 8 & 19 \\ 23 & 13 & 2 \\ 8 & 7 & 4 \end{array} $ | 3 8 11 5 25 23 11 (7 8 5 25 31 7 0 24 | 5 5 4 | Aug. Sept. Oct. Nov. Dec. | 5 10 12 4 22 56 | 5 0 58 4 11 30 3 0 22 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|---|---|---|---|--|---|--|
| B.C. 680. E. March. d. h. m. 23 10 7 | JAN. O FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | d. h. m. { 1 13 9 16 7 31 81 1 53 { 1 14 37 81 3 21 29 16 5 29 4 49 27 17 33 \$12 11 55 27 6 17 25 19 1 24 7 45 23 20 29 22 9 13 21 21 57 | d. h. m. 1 8 87 16 15 25 31 2 38 1 20 22 31 12 41 30 2 48 29 14 31 28 0 15 12 0 33 27 8 54 25 17 24 24 2 33 23 12 54 22 0 48 21 14 8 | B.C. 677. B.A. March. d. h. m. 28 3 33 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEFT O NOV DEC | $\begin{array}{c} \textit{d. h. m.} \\ 28\ 17\ 3 \\ 27\ 5\ 47 \\ 27\ 18\ 31 \\ 26\ 7\ 15 \\ \{11\ 1\ 37 \\ \{25\ 19\ 59 \\ 24\ 8\ 43 \\ 23\ 21\ 27 \\ 22\ 10\ 11 \\ 20\ 22\ 55 \\ 20\ 11\ 39 \\ \left\{ \begin{array}{c} 4\ 6\ 1 \\ 19\ 0\ 23 \\ 18\ 13\ 7 \end{array} \right. \end{array}$ | d. h. m. 28 15 9 27 1 29 27 12 16 26 0 9 11 10 4 25 13 32 24 4 25 23 20 20 22 12 31 21 4 14 20 18 58 3 18 45 19 8 25 18 20 26 |
| 679. p. 28 15 56 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O DEC | 20 10 42 18 23 26 20 12 10 19 0 54 18 13 38 { 2 8 0 { 17 2 22 16 15 6 15 3 50 13 16 34 13 5 18 { 11 18 2 { 26 12 24 11 6 46 | 20 4 51 18 20 43 20 13 8 19 5 16 18 20 21 2 0 35 17 9 54 16 21 47 15 8 28 13 18 35 13 4 44 11 15 18 26 16 39 11 2 25 | 676. g. 28 9 22 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 17 1 52 15 14 86 17 3 20 15 16 4 15 4 48 18 17 32 18 6 16 11 19 0 10 7 44 9 20 28 8 9 12 7 21 56 | 17 7 8 15 16 88 17 1 24 15 10 9 14 19 48 13 7 15 12 20 58 11 12 52 10 6 16 10 0 5 8 17 11 8 8 36 |
| 678. c. 23 21 45 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG . SEPT OCT Nov. C | 9 19 30 8 8 14 9 20 58 8 9 42 { 7 22 26 { 22 16 48 6 11 10 5 23 54 4 12 38 3 1 22 2 14 6 { 1 2 50 15 21 12 30 15 34 30 4 18 | 6 12 34 6 3 38 4 17 51 3 7 1 2 19 17 1 6 54 15 15 44 30 18 2 | F. 28 15 11 | FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 4 23 24 { 6 12 8 21 6 30 5 0 52 4 13 36 3 2 20 2 15 4 { 1 3 48 30 16 32 { 14 10 54 29 5 16 28 18 0 | 5 8 52 6 17 58 21 10 41 5 1 46 4 9 9 2 17 8 2 2 50 (31 15 5 30 6 13 14 10 27 28 23 51 28 18 50 27 13 42 27 6 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|---------|------------------------------------|----------------------------|----------------------------|--------|------------------------------------|------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 671. | | d. h. m. | d. h. m. |
| 674. | JAN | 25 8 13 | 25 21 39 | A | 0 | (751 | 7 14 23 |
| Е. | FEB | 28 20 57 | 24 9 25 | March. $d. h. m.$ | JAN | 121 23 23 | 21 21 26 |
| March. | 0 | (10 15 19 | 10 11 42 | Co. 11. 111. | FEB | 20 12 7 | 20 15 15 |
| d, h, m, 23 21 0 | MAR. | 25 9 41 | 25 18 40 | 28 14 26 | MAR. | 22 0 51 | 22 8 14 |
| 23 21 0 | APRIL | 28 22 25 | 24 2 10 | | APRIL | 20 13 35 | 20 23 27 |
| | MAY . | 28 11 9 | 23 8 53 | | MAY. | 20 2 19 | 20 12 23 |
| | JUNE . | 21 23 53 | 21 15 56 | | June . | 18 15 3 | 18 23 9 |
| | JULY . | 21 12 37 | 21 0 26 | | 0 | (3 9 25 | 2 21 32 |
| | | 20 1 21 | 19 11 21 | 1 | JULY . | 18 3 47 | 18 8 25 |
| 11 11 11 11 | Aug | (8 19 48 | 1 | | Aug. | | 1 |
| | O Comm | 13 | | | SEPT. | | |
| | SEPT. | | 1 | | Oct. | 14 17 59 | |
| 1 | Oct. | 1 | | | Nov. | 13 6 48 | |
| | Nov. | | | 1 | DEC. | (12 19 27 | 1 |
| | DEC. | . 16 4 17 | 16 8 50 | | 0 | 27 13 50 | 1 1 |
| | | | | | | 1 | |
| 673. | JAN. | . 14 17 9 | | 670. | JAN. | . 11 8 19 | |
| p.c. | FEB. | . 18 54 | 1 | 11 | FEB. | . 9 20 50 | |
| | 0 | ₹23 O | 8 27 18 43 | 28 20 13 | MAR. | | 1 |
| 28 2 49 | MAR. | . 13 18 3 | 0 14 8 12 | | APRII | | |
| | APRII | L 12 71 | 4 12 18 14 | : | MAY | . 9 11 | 8 9 16 14 |
| | MAY | . 11 19 5 | 8 12 2 7 | | JUNE | 1) | 1 10 |
| | June | . 10 84 | $2 \mid 10 \mid 8 \mid 57$ | 7 | 0 | 22 18 1 | |
| | July | . 9 21 2 | 6 9 15 49 |) | JULY | . 7 12 8 | 1 |
| 411 | Aug. | . 8 10 3 | 10 7 23 49 | 3 | Aug. | . 6 1 2 | |
| | 0 | 28 4 5 | 32 23 8 5 | 4 | SEPT | 1 | 4 4 17 37 |
| 1 | SEPT. | 6 22 5 | 6 9 4 | 9 | Our. | 1 | |
| | Ocr. | . 6 11 8 | 5 22 3 | 3 | Nov. | . 2 15 | 32 2 14 25 |
| | Nov. | . 509 | 22 4 14 | 8 | | (24 | |
| | DEC. | . 4 13 | 6 4 8 | 4 | DEC. | | |
| | | | | 1 | | 31 17 | 0 31 12 32 |
| 672. | JAN. | . 3 1 | 50 3 3 | 9 669. | JAN. | . 30 5 | 44 30 0 20 |
| B, | FEB. | | | 11 | FEB. | | 28 28 12 51 |
| | | | 18 3 14 | 13 28 2 | 4 MAI | | 12 29 2 21 |
| 28 8 8 | APR | | 2 2 4 | 11 =0 = | APR | | 56 27 16 52 |
| | 22.1710 | | 46 1 16 | 14 | MA | | 40 27 8 7 |
| | MA | | | 15 | C | (11 0 | |
| | Jun | 300 | 14 29 8 | 55 | Jun | 15 0= 0= | |
| | Jul | | | 21 | Jul | 1 ' 40 | 8 25 14 21 |
| | Aus | 0= = | | 30 | Au | 20.00 | |
| 1 | | 07 00 | | . H | SEF | | 36 22 17 20 |
| | SEP | A | 10 24 21 | - 11 | Oca | 000 | 20 22 5 29 |
| | Oct | 20.34 | | - 11 | | v 20 18 | |
| | No | 00 40 | 0- | 59 | DE | 00 1 | 48 20 3 54 |
| | ואכנ | c 28 10 | | | | | |
| | 1 | 1 | 1 | ., | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------|----------------------------|--------|--|------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| 668. | ~ | 1 | | 665. | ~ | | |
| March. | JAN | 18 14 33 | 18 14 19 | March. | JAN | 16 5 43 | 16 18 46 |
| d. h. m. | FEB | 17 3 17 | 17 0 23 | d. h. m. | FEB | 14 18 27 | 15 7 55 |
| 28 7 53 | MAR | 18 16 1 | 18 10 35 | 28. 1 19 | MAR | 15 7 11 | 15 18 14 |
| | APRIL | 17 4 45 | 16 21 35 | | APRIL | 13 19 55 | 14 2 24 |
| | O M | 1 23 7 | 2 9 32 | | MAY. | 13 8 39 | 13 9 16 |
| | MAY. | (16 17 29 | 16 9 59 | | JUNE. | 11 21 23 | 11 16 1 |
| | JUNE. | 15 6 13 14 18 57 | 15 0 5 | | July. | 11 10 7 | 10 23 40 |
| | JULY. | 13 7 41 | 14 15 36 | | Aug | 9 22 51 | 9 9 20 |
| | Aug | 11 20 25 | 13 7 57 | | SEPT | 8 11 35 | 7 21 48 |
| | SEPT | | 12 0 15 | | Ост | 8 0 19 | 7 13 22 |
| | |) | 11 15 50 | | Nov | 6 13 3 | 6 7 32 |
| | Nor | 26 3 31 | 25 15 33 | | DEC | 6 1 47 | 6 3 4 |
| | Nov Dec | 9 21 58 9 10 37 | 10 6 11 9 19 0 | | | | |
| | DEC | 9 10 57 | 9 19 0 | 664. | JAN | 4 14 31 | 4 22 15 |
| 667. | JAN | 7 23 21 | 8 6 19 | F. | FEB | ∫ 3 3 15 | 8 15 82 |
| C. | FEB | 6 12 5 | 6 16 14 | | 0 | 17 21 37 | 17 17 1 |
| 23 13 42 | MAR | 8 0 49 | 8 1 4 | 28 7 8 | Mar | 4 15 59 | 5 5 56 |
| | APRIL | ∫ 6 13 33 | 6 9 30 | | APRIL | 3 4 43 | 3 17 16 |
| | 0 | 121 7 55 | 21 19 25 | | MAY. | 2 17 27 | 3 2 4 |
| | MAY . | 6 2 17 | 5 18 23 | | JUNE. | ∫ 1 6 11 | 1 9 17 |
| | June. | 4 15 1 | 4 4 42 | | | (80 18 55 | 30 16 4 |
| | July. | 4 3 45 | 3 17 11 | | July. | 30 7 39 | 29 23 28 |
| | Aug | 2 16 29 | 2 8 6 | 1 | . 0 | $\begin{cases} 14 & 2 & 1 \end{cases}$ | 14 4 55 |
| | SEPT. | ∫ 1 5 13 | 1 1 1 | • | Aug | 128 20 23 | 28 8 30 |
| | 022200 | 30 17 57 | 30 18 59 | | SEPT | 27 9 7 | 26 19 55 |
| | 0 | {15 12 19 | 15 3 45 | | Oct | 26 21 51 | 26 10 7 |
| | Oct | 130 6 41 | 30 12 49 | • | Nov | 25 10 35 | 25 2 56 |
| | Nov. | 28 19 25 | 29 5 22 | | DEC | 21 23 19 | 24 21 30 |
| | DEC | 28 8 9 | 28 19 47 | | | | |
| 666. | JAN | 26 20 54 | 27 7 51 | 663. E, | JAN | 23 12 4 | 23 16 27 |
| В. | FEB | 25 9 38 | 25 17 43 | F. | _ 0 | <i>{</i> 7 6 26 | 7 7 48 |
| 23 19 30 | MAR | 26 22 22 | 27 1 54 | 20 40 55 | FEB | 122 0 48 | 22 10 14 |
| | 0 | ∫10 16 44 | 10 22 11 | 28 12 57 | MAR | 23 13 32 | 24 1 45 |
| 1 . | APRIL | 25 11 6 | 25 9 13 | | APRIL | 22 2 16 | 22 14 27 |
| | MAY . | 24 23 50 | 24 16 38 | | MAY . | 21 15 0 | 22 0 31 |
| | JUNE. | 23 12 34 | 23 1 18 | | June. | 20 3 44 | 20 8 53 |
| | JULY. | 23 1 18 | 22 12 10 | | July. | 19 16 28 | 19 16 27 |
| | Aug | 21 14 2 | 21 1 56 | | Ο, | 3 10 50 | 3 5 88 |
| | SEPT | 20 2 46 | 19 18 31 | | Aug | 18 5 12 | 18 0 18 |
| | 0 | { 4 21 8 | 4 19 36 | | SEPT. | 16 17 56 | 16 9 18 |
| | Ост | 19 15 30 | 19 13 8 | | Ocr | 16 6 40 | 15 20 4 |
| | Nov. | 18 4 14 | 18 8 26 | | Nov | 14 19 21 | 14 8 56 |
| | Dec | 17 16 58 | 18 2 43 | | DEC | 14 8 8 | 13 23 54 |
| | 1 | 1 | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|---|--|--|--|--|---|---|
| B.C. 662. D. March. d. h. m. 28 18 45 | JAN O FEB MAR APRIL MAY . JUNE . O AUG SEFT OCT NOV DEC | d. h. m. {12 20 58 {27 15 15 11 9 37 12 22 21 11 11 5 10 23 49 9 12 38 { 9 1 17 {23 19 39 7 14 1 6 2 45 5 15 29 4 4 13 3 16 57 { 2 5 41 { 31 18 25 | d. h. m. 12 16 38 27 28 59 11 10 5 13 3 24 11 19 29 11 9 36 9 21 30 9 7 36 23 7 32 7 16 40 6 1 38 5 11 10 3 21 43 3 9 30 1 22 32 31 12 47 | B.C. 659. G. March. d. h. m. 28 12 12 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 9 12 2 8 0 47 9 13 81 8 2 15 { 7 14 59 22 9 21 6 3 48 5 16 27 4 5 11 2 17 55 { 2 6 39 81 19 23 {15 13 45 80 8 7 29 20 51 28 9 35 | d. h. m. 9 13 82 7 23 84 9 9 22 7 19 87 7 7 2 22 17 21 5 20 8 5 11 0 4 3 9 2 19 50 2 12 9 {1 3 24 15 3 10 30 5 15 28 15 43 |
| 28 0 34 | MAR AFRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 25 11 33 | 22 0 15 | F. 28 18 1 | FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT. Nov. DEC. | 26 22 19 28 11 3 26 23 47 26 12 31 25 1 15 24 13 59 28 2 43 21 15 27 21 4 11 | 28 13 45 27 0 51 28 9 11 26 17 30 26 2 50 24 14 4 24 3 48 22 19 53 21 13 41 21 7 59 20 1 28 19 17 7 |
| 660. A. 28 6 23 | DEC. JAN. FEB. | 18 15 58 20 4 42 18 17 26 18 6 10 2 0 35 16 18 54 16 7 38 14 20 25 | 19 22 55 3 18 10 26 4 19 28 7 5 18 12 56 0 18 8 41 2 2 0 56 4 16 19 6 3 16 10 2 2 15 1 7 6 13 14 56 0 13 3 44 4 11 15 4 6 25 28 4 | 657. E.D. 27 28 50 3 4 4 7 5 4 | JAN. FEB. MAR. O APRII MAY JUNE JULY AUG. SEPT. O OCT. NOV. DEC. | 131 14 14 15 8 36 14 21 20 13 10 4 12 22 48 11 11 32 10 0 16 24 18 38 9 13 0 8 1 44 | 3 16 17 10 17 1 57 1 31 17 29 15 9 26 14 16 33 13 0 22 12 10 1 10 22 20 6 9 13 38 8 24 18 55 9 7 30 4 8 2 48 |

M

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|---------------|---|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 641. | | d. h. m. | d. h. m. |
| 644. | JAN | 23 4 36 | 23 0 24 | F.E. | JAN | 20 19 46 | 20 22 15 |
| в. | 0 | f 6 22 58 | 7 8 24 | d. h. m. | FEB | 19 8 30 | 19 7 49 |
| March. | FEB | 21 17 20 | 21 17 23 | 27 20 51 | MAR | 19 21 14 | 19 17 6 |
| 28 3 24 | MAR. | 23 6 4 | 23 10 19 | | APRIL | 18 9 58 | 18 2 51 |
| | APRIL | 21 18 48 | 22 2 10 | | MAY. | 17 22 42 | 17 13 51 |
| 1 4 | MAY. | 21 7 32 | 21 16 18 | | 0 | (1174 | 2 0 37 |
| | JUNE - | 19 20 16 | 20 4 28 | | June . | 16 11 26 | 16 2 45 |
| | JULY. | 19 9 0 | 19 14 58 | | JULY. | 16 0 10 | 15 17 38 |
| | 0 | (3 3 22 | 2 14 37 | | Aug | 14 12 54 | 14 10 5 |
| | Aug | 17 21 44 | 18 0 33 | | SEPT | 13 1 38 | 13 3 16 |
| | SEPT. | 16 10 28 | 16 9 58 | | Ост | 12 14 22 | 12 20 8 |
| | Oct | 15 23 12 | 15 19 53 | | Nov | (11 3 6 | 11 11 52 |
| | Nov. | 14 11 56 | 14 6 36 | | 0 | 25 21 28 | 25 11 38 |
| | DEC | 14 0 40 | 13 18 17 | | DEC | 10 15 50 | 11 1 53 |
| 643. | Jan | 12 13 23 | 12 6 55 | | | | |
| A. | FEB. | 11 2 8 | 10 20 38 | 640. | JAN | 9 4 35 | 9 13 58 |
| 28 9 13 | MAR. | 12 14 53 | 12 11 18 | D. | FEB | 7 17 19 | 8 0 11 |
| 10 0 20 | APRIL | 11 3 37 | 11 2 42 | 28 2 40 | MAR | 9 6 3 | 9 8 55 |
| | MAY. | 10 16 21 | 10 18 18 | | APRIL | 7 18 47 | 7 16 50 |
| | JUNE . | 9 5 5 | 9 9 27 | | MAY . | 7 7 31 | 7 0 49 |
| -17 | JULY. | 8 17 49 | 8 23 34 | | JUNE . | 5 20 15 | 5 9 58 |
| 1 | Aug. | 7 6 33 | 7 12 26 | | JULY. | 5 8 59 | 4 21 0 |
| .8 | SEPT. | 5 19 17 | 6 0 17 | | Aug | 3 21 43 | 8 10 46 |
| | Oct. | 5 8 1 | 5 11 27 | | SEPT | 2 10 27 | 2 8 7 |
| | Nov. | 3 20 45 | 3 22 24 | | _ | (1 23 11 | 1 21 16 |
| 1 | DEC. | (3 9 29 | 3 9 15 | | Ocr | 31 11 55 | 81 15 57 |
| | 0 | 18 3 51 | 18 8 37 | } | Nov | 80 0 89 | 80 9 46 |
| | | | | 1 | DEC | 29 13 23 | 80 1 84 |
| 642. | JAN | $\begin{cases} 1 & 22 & 13 \\ 21 & 10 & 57 \end{cases}$ | 1 20 4 | | | | |
| G. | T7 | 31 10 57 | 31 6 59 | 639. | JAN | 28 2 7 | 28 14 44 |
| | FEB | c 1 00 41 | 1 10 14 | C. | FEB. | 26 14 51 | 27 1 18 |
| 28 15 2 | MAR | $ \begin{cases} 1 & 23 & 41 \\ 31 & 12 & 25 \end{cases} $ | 1 18 14 | 28 8 29 | MAR. | 28 8 35 | 28 9 47 |
| | A | 30 1 9 | 31 6 20 | | 0 | (11 21 57 | 12 0 11 |
| | APRIL MAY. | 29 13 53 | 29 19 36 29 10 8 | | APRIL | 26 16 19 | 26 16 59 |
| | | (13 8 15 | 13 8 17 | | MAY. | 26 5 8 | 25 28 55 |
| | June. | 28 2 37 | 28 1 32 | | JUNE. | 24 17 47 | 24 7 89 |
| | JULY. | 27 15 21 | 27 17 12 | | JULY. | 24 6 31 | 23 17 19 |
| | Aug. | 26 4 5 | 26 8 29 | | Aug | 22 19 15 | 22 5 43 |
| | SEPT. | 24 16 49 | 24 22 54 | 1 | SEPT. | 21 7 59 | 20 21 13 |
| | Oct. | 24 5 33 | 24 12 16 | | 0 | (6 2 21 | 6 8 29 |
| | Nov. | 22 18 17 | 23 0 35 | | Oct | 20 20 48 | 20 15 17 |
| i d | 0 | (7 12 39 | 7 7 50 | | Nov. | 19 9 27 | 19 10 48 |
| | DEC. | $\begin{cases} 22 & 7 & 1 \end{cases}$ | 22 11 54 | | DEC | 18 22 11 | 19 5 58 |
| | 1 | 1 | | | | | |

| Mean | | | True New | Mean | | Mean New | True New |
|--------------------|--------|---------------------|-----------------------|--------------------|---------|---------------|---------------|
| Vernal Equinox. | Month. | Moon. Sull Ecl.) | Moon. O Full Ecl.) | Vernal Equinox. | Month. | (O Full Ecl.) | O Full Ecl.) |
| B.C. 638. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| В. | JAN | 17 10 56 | 17 23 12 | 635. | Jan | (14 2 5 | 13 20 11 |
| d. $h.$ $m.$ | FEB | 15 23 40 | 16 13 39 | E. | 0 | 1 28 20 27 | 29 7 25 |
| 28 14 17 | MAR | 17 12 24 | 18 1 5 | March. $d. h. m.$ | FEB | 12 14 50 | 12 12 36 |
| | 0 | (1 6 46 | 1 1 54 | 28 7 44 | MAR | 14 3 34 | 14 5 25 |
| | APRIL | 16 1 8 | 16 9 56 | | APRIL | 12 16 18 | 12 21 46 |
| | MAY . | 15 13 52 | 15 17 8 | | MAY. | 12 5 2 | 12 12 47 |
| | June . | 14 2 36 | 13 23 46 | | June . | 10 17 46 | 11 2 2 |
| | JULY . | 13 15 20 | 13 6 55 | | JULY. | ∫10 6 30 | 10 13 30 |
| | Aug | 12 4 · 4 | 11 15 41 | | 0 | 25 0 52 | 24 11 41 |
| | SEPT | (10 16 48 | 10 2 55 | | Aug | 8 19 14 | 8 23 40 |
| | 0 | 25 11 10 | 25 16 56 | | SEPT | 7 7 58 | 7 9 21 |
| | Oct | 10 5 32 | 9 17 9 | | Oct | 6 20 42 | 6 19 10 |
| 1 | Nov | 8 18 16 | 8 10 14 | | Nov | 5 9 26 | 5 5 35 |
| | DEC | 8 7 0 | 8 5 11 | | DEC | 4 22 10 | 4 16 47 |
| Į. | | | • | 634. | JAN | (3 10 55 | 3 4 48 |
| 637. | JAN. | 6 19 45 | 7 0 35 | D. | 0 | 18 5 17 | 18 18 26 |
| A.G. | FEB. | 5 8 29 | 5 18 44 | | FEB | 1 23 39 | 1 17 42 |
| 27 20 6 | MAR. | c 5 21 13 | 6 10 24 | 28 13 33 | MAR. | 3 12 23 | 3 7 34 |
| | 0 | 20 15 35 | 20 10 4 | | APRIL | 2 1 7 | 1 22 22 |
| | APRIL | 4 9 57 | 4 23 3 | i | | (1 13 51 | 1 13 47 |
| | MAY . | 3 22 41 | 4 8 57 | | MAY . | (31 2 35 | 31 5 12 |
| | JUNE . | 2 11 25 | 2 16 52 | | JUNE . | 29 15 19 | 29 20 0 |
| | _ | (209 | 1 23 58 | | 0 | (14 9 41 | 13 23 5 |
| 1 | JULY. | 31 12 53 | 81 7 16 | | JULY . | 29 4 3 | 29 9 44 |
| | Aug | 80 1 37 | 29 15 46 | | Aug. | 27 16 47 | 27 22 21 |
| | 0 | (13 19 59 | 13 23 56 | | SEPT. | 26 5 31 | 26 10 6 |
| İ | SEPT | 28 14 21 | 28 2 17 | 1 | Oct. | 25 18 15 | 25 21 20 |
| | Ocr | 28 3 5 | 27 15 15 | | Nov. | 24 6 59 | 24 8 19 |
| | Nov | 26 15 49 | 26 6 41 | | DEC. | 23 19 43 | 23 19 7 |
| | DEC | 26 4 33 | 26 0 8 | | | (7145 | 7 22 0 |
| | | | | 633. | JAN. | 22 8 27 | 1 |
| 636. | JAN | 24 17 17 | 24 18 30 | С.В. | FEB. | 00 01 11 | |
| F. | FEB. | 23 6 1 | 23 12 32 | 27 19 22 | | | 1 |
| 28 1 55 | MAR. | 24 18 45 | 25 4 56 | 10 22 | APRIL | | 4 |
| == = 50 | APRIL | 23 7 29 | 23 18 55 | | MAY | | |
| | MAY . | 22 20 13 | 23 6 22 | | JUNE | 100 | 17 20 59 |
| | JUNE . | 21 8 57 | 21 15 47 | | 0 | (2 18 29 | 2 15 26 |
| | JULY. | 20 21 41 | 21 0 4 | | JULY | . 17 12 51 | 1 17 12 44 |
| | Aug. | 19 10 25 | 19 8 13 | , | Aug. | | سميميا. |
| | SEPT | 17 23 9 | 17 17 7 | | SEPT. | | 14 19 42 |
| | Oct. | 17 11 53 | 17 8 21 | 1 | Oct. | . 14 3 8 | مسميا |
| | Nov. | 16 0 37 | 15 15 16 | | Nov. | . 12 15 47 | 7 12 22 57 |
| | DEC. | 15 13 21 | | ł I | DEC. | 1 40 4 04 | 12 10 50 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--------------------------------------|--|--|---|---|--|---|--|
| B.C. 632. A. March. d. h. m. 28 1 10 | JAN FEB MAR APRIL MAY O JUNE . JULY . AUG SEPT OCT Nov O DEC | d. h. m. 10 17 16 9 6 0 10 18 44 9 7 28 { 8 20 12 23 14 34 7 8 56 6 21 40 5 10 24 3 28 8 3 11 52 { 2 0 86 16 18 58 { 1 13 20 | d. h. m. 10 21 34 9 7 18 10 16 26 9 1 35 8 11 39 23 23 58 6 23 25 6 13 17 5 5 10 3 22 18 3 15 42 2 8 20 16 8 37 1 23 24 | B.C. 629. E.D. March. .d. h. m. 27 18 37 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | d. h. m. 8 8 26 6 21 10 7 9 54 5 22 38 5 11 22 4 0 6 3 12 50 { 2 1 34 31 14 18 30 3 2 29 15 46 28 4 30 27 17 14 | d. h. m. 8 18 51 7 10 46 7 23 36 6 9 34 5 17 25 4 0 11 3 6 59 1 14 54 31 0 55 29 13 41 29 5 26 27 23 84 27 18 52 |
| 631. G. 28 6 59 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEFT OCT O NOV DEC | \\ \begin{array}{cccccccccccccccccccccccccccccccccccc | 81 12 30 29 28 38 28 8 47 29 16 51 28 0 29 18 9 4 27 8 44 25 18 40 25 7 4 22 15 47 22 10 33 5 21 21 21 5 8 20 22 8 | 628. c. 28 0 26 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 26 5 59 24 18 43 {11 13 5 26 7 27 24 20 11 24 8 55 22 21 89 22 10 23 20 28 7 { 4 17 29 19 11 51 19 0 35 17 13 19 17 2 8 | 26 18 44 25 6 39 11 8 50 26 20 45 25 7 55 24 16 44 23 0 12 22 7 28 20 15 20 4 19 30 19 0 54 18 12 41 17 2 53 16 19 18 |
| 630. F. 28 12 48 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 19 12 38 18 0 23 19 9 42 17 17 18 2 11 21 17 0 9 15 7 17 14 15 52 18 2 52 11 16 54 11 9 53 26 13 7 10 4 54 10 0 26 | 627. B. 28 6 15 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 15 14 47 {14 8 81 28 21 58 15 16 15 14 4 59 18 17 48 12 6 27 11 19 11 {10 7 55 25 2 17 8 20 89 8 9 28 6 22 7 6 10 51 | 15 18 11 14 7 20 {16 0 81 14 15 41 14 4 25 12 14 51 11 23 44 10 8 2 24 19 34 8 16 42 8 2 21 6 13 29 6 2 18 |

| Mean Vermal Payment Month. Mean New Month. | | | O.E. | RUSALEM O | 71111 171111 | | | |
|--|--------------------------------------|--|---|--|---|--------|---------------------|--|
| B.C. 626. JAN. 4 28 36 4 16 82 AMAY. 28 14 4 5 0 86 APRIL ANDREAM PRICE SEPT. 27 18 12 27 18 28 Oct. 27 6 56 27 4 43 Nov. 25 19 40 25 15 8 8 JULY. 19 18 21 12 00 4 21 11 20 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 11 20 21 19 MAY. 21 0 4 21 0 48 MAY. 21 0 4 2 20 20 20 20 20 20 20 20 20 20 20 20 2 | Vernal | Month. | Moon. | Moon. | Vernal | Month. | Moon. | Moon. |
| Nov 3 13 17 3 20 35 | B.C. 626. A. March. d. h. m. 28·12 3 | JAN FEB O MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC O JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT O JULY . AUG SEPT | d. h. m. 4 23 36 3 12 20 18 6 42 5 1 4 8 13 48 8 2 32 1 15 16 { 1 4 0 30 16 44 { 14 11 6 29 5 28 27 18 12 27 6 56 25 19 40 25 8 24 23 21 8 22 9 52 22 22 36 21 11 20 21 0 4 19 12 48 19 1 32 17 14 16 16 3 0 15 15 44 14 4 28 { 18 17 12 28 11 31 12 5 57 10 18 41 12 7 25 10 20 9 10 8 53 { 8 21 37 23 15 58 8 10 21 6 23 5 5 11 48 | d. h. m. 4 16 32 3 8 10 18 16 41 5 0 36 3 17 5 3 8 46 1 22 59 1 11 28 30 22 27 13 21 54 29 8 32 27 18 28 27 4 48 25 15 38 25 15 38 25 15 38 28 15 17 22 4 21 22 18 24 21 9 19 21 0 48 19 15 58 17 19 54 16 8 21 15 20 3 14 7 18 18 18 12 28 16 31 12 4 48 10 15 18 11 2 4 48 10 15 18 11 2 1 55 10 13 28 10 2 17 8 16 38 11 2 4 48 10 15 18 11 2 1 55 10 13 28 11 2 1 55 10 13 28 11 3 15 4 12 3 15 5 10 13 28 11 3 15 4 11 3 15 5 11 5 5 11 5 5 11 5 5 12 5 5 13 5 7 | B.C. 623. D. March. d. h. m. 28 5 30 622. c. 28 11 19 621. B.A. 27 17 | JAN | d. h. m. { 1 14 45 | d. h. m. 1 20 44 1 6 49 1 15 58 31 0 46 29 10 3 28 20 48 18 7 54 27 0 26 25 17 10 24 4 12 22 20 21 6 20 8 22 10 38 20 22 32 19 8 80 20 16 53 19 0 25 18 8 6 16 16 58 16 4 2 14 17 53 13 10 27 13 4 56 11 23 57 11 18 1 10 9 58 8 22 57 9 9 18 7 17 31 22 6 47 7 0 30 5 7 19 4 15 1 3 0 45 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 1 4 56 1 18 18 |
| | | DEC. | . (32 | 1 3 9 2 | 8 | | 00 5 55 | |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|--|--------------------------|--|---|--------------------------------|---------------------------|--|--|
| Equinox. | | (O Full Ecl.) | (O Full Ecl.) | Equinox. | | (O Full Ecl.) | (O Full Ecl.) |
| B.C. 620. 6. March. d. h. m. 27 22 56 | Jan Feb Mar | d. h. m. 27 18 40 26 7 24 27 20 8 | d. h. m. 28 7 8 26 21 27 28 8 42 | B.C. 617. p.c. March. | Jan O Feb | d. h. m. 25 9 50 | d. h. m. 25 4 12 9 15 46 23 20 1 |
| 00 | O April May. | $ \begin{cases} 11 & 14 & 30 \\ 26 & 8 & 52 \\ 25 & 21 & 36 \end{cases} $ | 11 8 52 26 17 26 26 0 35 | d. h. m. 27 16 23 | MAR April May. | 24 11 18 23 0 2 22 12 46 | 24 12 19 28 4 22 22 19 23 |
| | JUNE . JULY . AUG SEPT | 24 10 20 23 23 4 22 11 48 21 0 32 | 24 7 15 23 14 34 21 23 31 20 10 58 | | June. July. O Aug | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 21 8 52 20 20 45 3 18 59 19 7 28 |
| | Oct Nov Dec | 5 18 54 20 13 16 19 2 0 18 14 44 | 6 1 12 20 1 18 18 18 20 18 13 10 | | SEPT OCT Nov DEC | 17 15 42 17 4 26 15 17 10 15 5 54 | 17 17 40 17 8 55 15 14 88 15 1 89 |
| 619. F. | Jan Feb | 17 3 28 15 16 12 | 17 8 19 | 616. B. | JAN | 18 18 88 28 13 0 | 13 13 19 29 2 29 |
| 28 4 45 | MAR. | 15 16 12 17 4 56 31 23 18 15 17 40 | 16 2 13 17 17 42 31 17 44 16 6 16 | 27 22 12 | FEB MAR APRIL | 12 7 22 13 20 6 12 8 50 | 12 1 41 13 14 55 12 5 10 |
| | MAY . JUNE . JULY . | 15 6 24 13 19 8 13 7 52 | 15 16 10 14 0 14 13 7 32 | | MAY . JUNE . JULY . | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 11 20 15 10 11 89 10 2 48 24 6 88 |
| | AUG SEPT O Oct | $ \begin{bmatrix} 11 & 20 & 36 \\ 10 & 9 & 20 \\ 25 & 8 & 42 \\ 9 & 22 & 4 \end{bmatrix} $ | 11 15 10 10 0 0 25 7 37 9 10 44 | | Aug Sept Oct Nov | 8 11 46 7 0 30 6 13 14 | 8 16 57 7 6 10 6 18 80 |
| | Nov Dec | 8 10 48 7 23 32 | 7 23 44 7 15 0 | 615. A. | DEC JAN | 5 1 58 4 14 42 5 8 8 27 | 5 6 9 4 17 16 8 8 57 |
| 618. E. 28 10 84 | JAN FEB MAR | 6 12 17 5 1 1 6 13 45 | 6 8 7 5 2 3 6 19 40 | 28 4 0 | FEB MAR | 1 16 11 8 4 55 | 18 5 48 1 14 15 3 0 29 |
| | APRIL MAY . JUNE . | 5 2 29 4 15 13 3 3 57 | 5 11 50 5 1 46 8 13 23 | | APRIL MAY. | $ \left\{ \begin{array}{cccc} 1 & 17 & 89 \\ 1 & 6 & 23 \\ 80 & 19 & 7 \end{array} \right. $ | 1 11 14 30 23 8 30 12 32 |
| | JULY. | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 2 23 6 1 7 46 30 16 22 | | JUNE. O JULY. | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 29 8 81 18 28 4 28 19 81 |
| | SEPT Oct Nov | 29 6 53 28 19 87 27 8 21 | 29 1 40 28 12 7 27 0 2 | | Aug Sept Oct Nov | 27 9 19 25 22 8 25 10 47 23 23 81 | 27 11 48 26 8 84 25 18 19 |
| | DEC | 26 21 5 | 26 13 25 | | DEC | 28 12 15 | 24 7 44 28 19 41 |

| | | | | | | | |
|----------------------------|--------|-------------------------------------|------------------------------|----------------------------|---------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
| B.C. 614. | | d. h. m. | d. h. m. | B.C. 611. | | d. h. m. | d. h. m. |
| G. | JAN | 22 1 0 | 22 6 16 | c. | JAN | 18 16 9 | 19 2 45 |
| March. $d. h. m.$ | FEB | 20 13 44 | 20 15 37 | March. | FEB. | 17 4 53 | 17 18 31 |
| 28 9 49 | MAR. | 22 2 28 | 22 0 16 | d. h. m. 28 3 16 | MAR. | 18 17 37 | 19 7 13 |
| | APRIL | 20 15 12 | 20 8 59 | 1 0 0 10 | APRIL | 17 6 21 | 17 17 3 |
| | MAY . | 20 3 56 | 19 18 40 | | MAY. | 16 19 5 | 17 0 49 |
| | JUNE . | 18 16 40 | 18 6 12 | | JUNE . | 15 7 49 | 15 7 37 |
| | JULY . | 18 5 24 | 17 20 3 | | JULY. | 14 20 33 | 14 14 33 |
| | Aug | 16 18 8 | 16 12 7 | | Aug. | 13 9 17 | 12 22 42 |
| | SEPT | 15 6 52 | 15 5 89 | | SEPT. | 11 22 1 | 11 8 56 |
| | Oct | 14 19 36 | 14 23 34 | , | Ост. | 11 10 45 | 10 21 52 |
| 1 | Nov | (13 8 20 | 13 16 39 | | Nov | 9 23 29 | 9 13 37 |
| | 0 | 28 2 42 | 27 17 15 | | DEC. | 9 12 13 | 9 7 37 |
| | DEC | 12 21 4 | 13 8 0 | | | | |
| | | | | 610. | JAN | 8 0 58 | 8 2 42 |
| 613. | JAN | 11 9 48 | 11 21 6 | В. | FEB. | 6 13 42 | 6 21 15 |
| F.E. | FEB | 9 22 32 | 10 7 56 | 28 9 5 | MAR. | (8 2 26 | 8 13 56 |
| 27 15 38 | MAR | 10 11 16 | 10 16 52 | 20 0 0 | 0 | 22 20 48 | 22 16 31 |
| | APRIL | 9 0 0 | 9 0 33 | | APRIL | 6 15 10 | 7 3 55 |
| | MAY . | 8 12 44 | 8 7 53 | | MAY. | 6 8 54 | 6 15 5 |
| | 0. | 23 7 6 | 23 15 47 | | JUNE . | 4 16 38 | 5 0 0 |
| | JUNE . | 7 1 28 | 6 15 55 | | JULY. | 4 5 22 | 4 7 41 |
| } | JULY. | 6 14 12 | 6 1 44 | | Aug | 2 18 6 | (2 15 10 |
| | Aug | 5 2 56 | 4 14 11 | | | 1 6 50 | (31 23 28 |
| | SEPT | 3 15 40 | 3 5 32 | | SEPT. C | 16 1 12 | 16 2 57 |
| | Ocr | 3 4 24 | 2 23 20 | | | (30 19 34 | 30 9 20 |
| | Nov. | 1 17 8 | 1 18 26 | | Oct | 30 8 18 | 29 21 13 |
| | 0 | (16 11 30 | 16 6 15 | | Nov | 28 21 2 | 28 11 21 |
| | DEC | 1 5 52 | 1 13 17 | | DEC | 28 9 46 | 28 3 28 |
| | | (30 18 36 | 31 6 24 | | | | |
| 612. | JAN. | 29 7 21 | 29 20 52 | 609. | JAN | 26 22 31 | 26 20 53 |
| D. | FEB. | 27 20 5 | 28 8 26 | A.G. | FEB | 25 11 15 | 25 14 35 |
| 27 21 27 | MAR. | | 29 17 30 | | 0 | (11 5 87 | 11 8 23 |
| | APRIL | 27 21 83 | 28 0 53 | 27 14 53 | MAR. | 25 23 59 | 26 7 25 |
| | 0 | (12 15 55 | 12 17 50 | | APRIL | 24 12 43 | 24 22 29 |
| | MAY | 27 10 17 | 27 7 34 | | MAY . | . 24 1 27 | 1 |
| | JUNE | 1 | 25 14 41 | | June . | 1 | |
| | JULY | | 24 23 20 | | July . | | _ |
| | Aug. | 1 | 23 10 27 | 1 | Aug. | 1 . | |
| | SEPT. | 00 40 40 | 22 0 38 | | 0 | \ \ 4 10 1 | |
| | Oct. | . 22 1 57 | 21 17 45 | | SEPT. | 1 | |
| | 0 | (5 20 19 | 5 22 1 | | Oct. | · | 1 |
| | Nov. | . 20 14 41 | 20 12 52 | | Nov. | | |
| | DEC. | . 20 3 25 | 20 8 26 | | DEC. | . 16 18 3 5 | 16 10 52 |
| | | | | 1 | | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|---|--|--|--|
| B.C. 608. F. March. d. h. m. 27 20 42 | JAN FEB O MAR APRIL MAY . JUNE . O SEPT OCT NOV DEC | d. h. m. 15 7 19 {18 20 3 28 14 25 15 8 47 18 21 81 18 10 15 11 22 59 11 11 48 {10 0 27 24 18 49 8 13 11 8 1 55 6 14 39 6 3 23 | d. h. m. 15 0 45 13 15 47 {1 0 47 15 7 39 13 23 44 13 15 18 12 5 39 11 18 30 10 6 0 24 5 19 8 16 39 8 3 4 6 13 37 6 0 30 | B.C. 605. C.B. March. d. h. m. 27 14 9 | JAN FEB MAR APRIL MAY . O . JULY . AUG SEPT OCT Nov DEC | d. h. m. 12 22 29 11 11 13 11 28 57 10 12 41 10 1 25 { 8 14 9 { 23 8 31 8 2 53 6 15 37 5 4 21 4 17 5 8 5 49 { 2 18 33 { 17 12 55 | d. h. m. 18 5 30 11 15 15 11 28 58 10 8 20 9 17 12 8 8 36 23 15 11 7 16 18 6 7 17 5 0 22 4 18 28 8 12 21 8 4 48 17 4 87 |
| 607. E. 28 2 31 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 4 16 8 3 4 52 4 17 36 3 6 20 2 19 4 (1 7 48 30 20 32 30 9 16 28 22 0 27 10 44 26 23 28 25 12 12 25 0 56 | 4 11 46 2 23 30 4 11 58 3 1 26 2 15 55 1 7 10 30 22 34 30 18 28 29 3 30 27 16 32 27 4 45 25 16 15 25 3 7 | 604. A. 27 19 58 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 1 7 18 30 20 2 1 8 46 30 21 80 29 10 14 28 22 58 27 11 42 27 0 26 25 13 10 24 1 54 23 14 38 22 3 22 21 16 6 | 1 19 7 81 7 0 1 16 40 81 0 48 29 7 58 28 15 28 27 0 8 26 11 12 25 1 9 28 17 57 28 12 48 22 8 2 22 2 18 |
| 606. D. 28 8 20 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OOCT Nov | 23 18 41 22 2 25 23 15 9 22 3 58 21 16 37 20 5 21 4 23 43 19 18 5 18 6 49 16 19 38 16 8 17 | 23 13 26 21 23 25 28 9 33 21 20 32 21 8 58 19 23 9 4 23 19 19 14 47 18 7 11 16 23 36 16 15 12 15 5 31 14 18 18 | 603. g. 28 1 46 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT O Nov DEC | 20 4 51 18 17 85 20 6 19 18 19 8 18 7 47 16 20 81 16 9 15 14 21 59 18 10 48 (12 28 27 (27 17 49 11 12 11 11 0 55 | 20 18 5 19 7 1 20 17 8 19 1 9 18 7 59 16 14 48 15 22 30 14 8 20 12 21 2 12 12 49 27 20 57 11 7 9 11 2 40 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. C Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) |
|---|--|---|--|--|--|--|--|
| B.C. 602. F. March. d. h. m. 28 7 85 | JAN FEB MAR APRIL O MAY . JUNE . | d. h. m. 9 13 39 8 2 28 9 15 7 8 3 51 22 22 13 7 16 35 6 5 19 | d. h. m. 9 21 46 8 14 52 10 5 2 8 16 10 22 15 45 8 0 49 6 7 59 | B.C. 599. B. March. d. h. m. 28 1 2 | JAN FEB O MAR APRIL MAY . JUNE . | d. h. m. 6 4 49 { 4 17 83 19 11 55 6 6 17 4 19 1 4 7 45 2 20 29 | d. h. m. 5 21 51 4 12 4 19 23 53 6 3 17 4 19 6 4 10 52 3 1 56 |
| | JULY . AUG SEPT OCT. O NOV DEC | 5 18 3 4 6 47 2 19 31 2 8 15 17 2 87 31 20 59 30 9 43 29 22 27 | 5 14 47 3 22 20 2 7 32 1 19 9 17 9 34 31 9 38 30 2 29 29 21 4 | | JULY . O AUG SEPT OCT Nov DEC | { 2 9 18 81 21 57 {15 16 19 80 10 41 28 28 25 28 12 9 27 0 53 26 18 87 | 2 15 41 (1 4 4 15 2 25 30 15 22 29 2 6 28 12 43 26 23 30 26 10 29 |
| 601. E.D. 27 13 24 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT | $\begin{cases} 5 & 11 & 26 \\ 20 & 5 & 48 \end{cases}$ | 28 15 54 27 9 83 28 0 50 11 1 1 26 18 22 25 28 21 24 7 88 23 15 15 21 23 13 20 8 22 5 15 24 19 19 19 18 8 19 | 598. A. 28 6 50 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV | | 24 21 46 9 10 24 23 9 38 24 22 11 23 11 55 23 2 48 21 18 8 21 9 81 4 14 20 20 0 17 18 14 8 18 3 0 16 15 1 16 2 14 |
| 600. c. 27 19 18 | APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. | 18 7 16 16 20 0 15 8 44 16 21 28 15 10 12 14 22 56 13 11 40 18 0 24 11 13 8 | 17 28 21 16 15 59 15 9 26 17 2 38 15 18 34 15 8 33 13 20 22 13 6 27 11 15 34 10 0 38 9 10 18 7 20 57 | | DEC. JAN. O FEB. MAR. APRIL MAY JUNE JULY O AUG. SEPT. Oct. Nov. DEC. | $ \begin{cases} 14 & 11 & 10 \\ 29 & 5 & 32 \\ 12 & 28 & 54 \\ 18 & 12 & 18 \\ 12 & 1 & 22 \\ 11 & 14 & 6 \\ 10 & 2 & 50 \\ 9 & 15 & 34 \\ 24 & 9 & 56 \\ 8 & 4 & 18 \\ 6 & 17 & 2 \\ 6 & 5 & 46 \\ 4 & 18 & 30 \\ \end{cases} $ | 14 12 42 29 18 26 12 22 36 18 8 19 11 18 30 11 5 56 9 19 8 9 10 5 24 6 46 8 2 22 6 19 8 6 11 31 5 2 46 |

| ************************************** | | | | management and a superior | Tilling sinceres | AND PARTY OF PERSONS OF PERSONS P. | L. Carre et al. yerrostonor es |
|--|--------|------------------------------------|------------------------------------|----------------------------|----------------------------------|-------------------------------------|-------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ect.) | Mean Vernal Equinox, | Month. | Mean New Moon, (() Full Ecl.) | True New Moses. (() Full Ect) |
| B.C. 596. | | d. h. m. | d. h. m. | B.C. 593. | in Partirol Green and Taylor for | d. h. m. | d. h. m. |
| M. | JAN | 2 19 59 | 8 4 28 | 15. A. | JAN | 29 23 58 | 280 1 (B 281) |
| March. $d. h. m.$ | FEB | 1 8 48 | 1 14 48 | March. d. h. m. | FKB | 28 12 87 | 29 2 6 |
| 27 18 28 | MAR | 2 21 27 | 2 28 47 | 27 11 55 | MAR | 29 1 21 | 29 14 40 |
| | | (1 10 11 | 180 | | Arnt | 27 14 6 | 28 0 25 |
| | APRIL | 80 22 55 | 80 16 17 | | MAY . | 27 2 49 | 27 B 18 |
| - | MAY. | 80 11 89 | 80 1 40 | | JUNE . | 25 15 88 | 25 15 7 |
| | JUNE. | 29 0 23 | 28 18 8 | | July . | 23 4 17 | 21 22 17 |
| | JULY . | 28 18 7 | 28 2 55 | | Avo. | 28 17 1 | 23 6 40 |
| | Aug | 27 1 51 | 26 19 12 | | SEPT. | 22 5 45 | 21 17 H |
| | SEPT. | 25 14 85 | 25 18 8 | | Oct. | 21 18 20 | 21 6 10 |
| | Ocr | 25 8 19 | 25 7 80 | | Nov. | 20 7 18 | 19 21 58 |
| | Nov. | 28 16 8 | 24 0 58 | | Drc. | 19 19 57 | 19 15 89 |
| | 0 | (8 10 25 | 8 1 58 | | | | |
| | DEC. | 28 4 47 | 28 16 80 | | | 200 61 29 | *** *** *** |
| 505 | | | | 592. o. | JAN | 18 8 41 | 18 10 28 |
| 595. | JAN | 21 17 82 | 22 5 85 | 1 | FEB | 16 21 26 | 17 4 84 |
| | FEB | 20 6 16 | 20 16 11 | 27 17 48 | MAR. | 18 10 10 | 18 21 5 |
| 28 0 17 | MAR | 21 19 0 | 22 0 49 | 1 | 0 | 1 2 4 152 | 2 4 1 |
| | Arrit | 20 7 44 | 20 8 10 | | APRIL | (16 22 54 | 17 10 58 |
| | MAY . | 19 20 28 | 19 15 15 | | MAY . | 16 11 88 | 16 22 11 |
| * | 0 | S 8 14 50 | 8 22 29 | | Junn. | 15 0 22 | 15 7 17 |
| | JUNE. | (18 9 12 | 17 28 10 | | July. | 14 18 6 | 14 15 15 |
| | July. | 17 21 56 | 17 8 56 | | Aug | 18 1 50 | 12 23 6 |
| | Aug | 16 10 40 | 15 21 28 | | SEPT | Z11 14 B1 | 11 7 46 |
| | SEPT | 14 28 24 | 14 18 0 | 1 | O | (50 R PO | 20 10 21 |
| 1 | Oct | 14 12 8 | 14 7 8 | | Ост | 11 8 14 | 10 17 58 |
| | Nov. | 518 0 52 | 18 2 28 | | Nov | 9 16 2 | 0 6 63 |
| | 0 | 27 19 14 | 27 15 11 | | DEC | 9 4 48 | 8 19 61 |
| | DEC | 12 18 86 | 12 21 24 | | | | |
| 594. | JAN | 11 2 20 | 11 14 88 | 591. | JAN | 7 17 20 | 7 11 232 |
| C. | FEB | 9 15 4 | 10 4 55 | ¥. | Fun | 6 6 14 | 6 4 27 |
| 29 6 6 | MAR. | 11 8 48 | 11 16 18 | 27 28 82 | MAR | (7 18 58 | 7 21 40 |
| | APRIL | 9 16 82 | 10 1 9 | | O | 22 18 20 | 22 16 1s |
| | MAY . | 5 9 5 16 | 9 8 22 | | Arxil | 8 7 42 | 6 14 12 |
| | 0 | (28 28 88 | 24 0 16 | | MAY . | 5 20 26 | 6 5 11 |
| | JUNE . | 7 18 0 | 7 15 0 | | Juna. | 4 9 10 | 4 18 8 |
| | JULY . | 7 6 44 | 8 22 P | | July . | 8 21 54 | 4 5 10 |
| | Aug | 5 19 28 | 5 6 54 | | | (2 10 88 | 2 14 54 |
| | SEPT | 4 8 12 | 8 18 11 | | Avo | 81 28 22 | |
| | Ocr | 8 20 56 | 8 8 81 | | 0 | (15 17 44 | 15 10 9 |
| | Nov | (2 9 40 | 2 1 48 | | SEPT | (80 12 6 | (80 9 80 |
| | 0 | 17 4 2 | | | Ост | 80 0 50 | |
| | n | (1 22 24 | | | Nov | 28 18 84 | |
| | DEC | 81 11 8 | | | DEC | 28 2 18 | |
| | | 1 | | | | | |

| Money North | M min | Maria Maria | True New | Monn | Month | Mean New Month. | True New Moon, |
|---|---------|-------------|-------------|--------------|------------|--------------------|------------------------|
| Repairers | | Fall Bed | Frail Mat 1 | Regulations. | | (Pall Not.) | (() Fall Rel. |
| | | | | 4 1 1 1 1 | | | THE KIND OF THE SHADOW |
| BC | | of A. 800. | of A. 80. | B.C. | | d. h. m. | d. h. m. |
| 800 | 1 | W 15 B | . हते स १६६ | 687. | O | (H 11 50) | H 7 49 |
| March | 1'40 . | 25 3 47 | 21 23 19 | A | Jan | 120 0 14 | 24 14 7 |
| d 1 m | , | 11 22 0 | 12 9 40 | March. | Fan | 21 18 57 | 21 23 35 |
| 24 6 21 | M . s | 149 16 AL | J#1 14 87 | 27 22 47 | MAR. | 28 7 41 | 28 7 68 |
| | Armie | 25 6 15 | 25 0 29 | | Arnii. | 21 20 25 | 21 15 48 |
| | M . v . | 24 17 50 | 24 21 47 | | MAY . | ul 10 10 | 21 0 21 |
| | J | 21 6 43 | 20 12 19 | | Jenn . | 10/21/58 | 10 10 102 |
| | J | 22 19 27 | a 1 a: | | 1, | 1 4 16 15 | 4 23 20 |
| | Atm | 21 0 11 | 21 10 40 | | Juny . | (19 10 47 | 18 28 7 |
| 1 | | 5 2 83 | 4 12 54 | | Ava | 17 23 21 | 17 14 20 |
| | feer | 110 20 15 | A1 1) 64 | | Harr. | 16 12 6 | 16 7 44 |
| | 1 h. z. | 19 0 10 | 19 11 45 | | (h. 7 | 16 0 49 | 16 2 16 |
| | Non. | 1: 24 20 | 1: 22 81 | | Nos. | 14 18 10 | 14 20 80 |
| | 1) | 1: 11 : | 17 9 20 | | Item. | 114 2 17 | 14 18 18 |
| | | | 2 | | Ü | 1 24 20 80 | 24 18 6 |
| ona | | 15 23 63 | 15 20 25 | | | | |
| Date: | Jas | | | 600. | Jaw. , | 12 15 1 | 18 8 84 |
| | Fem . | 14 12 36 | • • • • • | ti | Fan | 11 11 45 | 11 15 1H |
| ¥7 11 10 | Man. | 15 1 20 | 14 19 2 1 | 21 4 30 | Man., | 12 10 29 | 13 0 42 |
| | Arnit. | 13 14 4 | 13 9 23 | | Arais. | 11 6 13 | 11 H 95 |
| | Mes . | 13 2 40 | 11 22 31 | | Mas . | 10 17 67 | 10 15 48 |
| | J1 80 . | 11 15 03 | 11 10 07 | | Jinn. | 9 0 0 41 | H 22 41 |
| | Jirs. | 11 4 10 | 11 5 12 | | | 121 1 1 | 24 H 10 |
| | A * 44. | 0 17 11 | 10 Te 1 128 | | J : 2. 1 | н 10 ца | H 7 23 |
| | Mest. | M 5 44 | 90 11 11 | | Atn | 7 H D | 0 1H 20 |
| | they . | 7 100 200 | N 43 64 | | Mary. | 6 20 68 | 5 8 85 |
| | Nor. | 6 7 19 | 0 13 30) | | Der. | 6 0 117 | 6 1 Bei |
| | Liter | 8 10 to | 6 1 12 | | Nov . | 11 22 21 | B 20 B5 |
| | d | B | 1 | | Dar | 8 11 B | 8 10 2 |
| 608. | Jan | 4 8 40 | 4 11 50 | | 1 | 1 1 22 54 | 2 10 19 |
| - | 3') | 110 8 8 | to M M | 665. | JAN | BI 12 BI | |
| | For . | 2 21 24 | 2 21 57 | 7. 0. | Fun . | | 1 4 6 |
| 97 10 to | Man. | 4 10 H | 4 7 201 | | F 90.400 . | 1 1 1 1 | 1 |
| | Armi | 2 22 Na | 2 17 2 | 27 10 25 | Man | BO 14 1 | |
| | Mar . | 2 11 00 | 12 8 112 | | Arms. | 20 2 40 | 1 |
| | | 1 0 90 | (at 19 ten | | May . | 20 15 10 | |
| | Jenn . | (m) 18 4 | m 6 44 | | Jess . | | |
| | 0 | 15 7 20 | 15 6 50 | | | 10 16 te | |
| | Jeir . | (20) 1 444 | | | Avo | OA A Ad | 21 16 4 |
| | Aru. | | | | | 23 1H 26 | |
| a de la companya de la companya de la companya de la companya de la companya de la companya de la companya de | facer. | 27 8 10 | 27 7 19 | | Oct. | 4 | |
| | Chr. | 20 10 0 | | | 1 | 7 1 8. | 1 |
| | Nov. | 1 | | | 0 | | 21 15 7 |
| | Dec. | | | | New. | 1 | 8 |
| | 6764 · | | | | Day. | 81 8 88 | MT 10 00 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|----------|------------------------------------|------------------------------------|
| B.C. 584. | | d. h. m. | d. h. m. | B.C. 581. | | d. h. m. | d. h. m. |
| D. | Jan | 19 21 23 | 20 5 32 | A.G. | JAN | 17 12 33 | 17 6 13 |
| March. | FEB | 18 10 7 | 18 22 28 | d. h . m . | FEB | 16 1 17 | 15 19 51 |
| d. h. m. 27 16 14 | MAR | 19 22 51 | 20 12 29 | w. n. m. | 0 | (1 19 39 | 2 7 56 |
| | APRIL | 18 11 35 | 18 23 31 | 27 9 40 | MAR | (16 14 1 | 16 10 29 |
| } | 0 | (3 5 57 | 2 22 36 | | APRIL | 15 2 45 | 15 1 49 |
| | MAY . | 18 0 19 | 18 8 9 | | MAY . | 14 15 29 | 14 17 22 |
| | JUNE . | 16 13 3 | 16 15 26 | | June. | 13 4 13 | 13 8 29 |
| | JULY. | 16 1 47 | 15 22 27 | | JULY. | 12 16 57 | 12 22 85 |
| 1 | Aug | 14 14 31 | 14 6 14 | | Aug | (11 5 41 | 11 11 30 |
| | SEPT | 13 3 15 | 12 15 42 | | 0 | 126 0 B | 25 10 0 |
| | Oct. | (12 15 59 | 12 3 30 | | SEPT | 9 18 25 | 9 23 24 |
| | 0 | 27 10 21 | 27 18 0 | | Oct | 9 7 9 | 9 10 38 |
| | Nov. | 11 4 43 | 10 17 54 | | Nov | 7 19 53 | 7 21 38 |
| | DEC | 10 17 27 | 10 10 40 | | DEC | 7 8 87 | 7 8 29 |
| | | | | 580. | JAN | 5 21 21 | 5 19 16 |
| 583. | JAN | 9 6 11 | 9 4 54 | F. | FEB | (4105 | 4 6 6 |
| C. | FEB | 7 18 55 | 7 23 22 | | 0 | 19 4 27 | 19 18 7 |
| 27 22 3 | MAR | 9 7 39 | 9 16 42 | 27 15 29 | MAR | 5 22 49 | 5 17 18 |
| | APRIL | ∫ 7 20 23 | 8 7 50 | | APRIL | 4 11 33 | 4 5 20 |
| | 0 | 22 14 45 | 22 8 22 | | MAY. | 4 0 17 | 3 18 36 |
| * | MAY . | 7 9 7 | 7 20 22 | | June. | 2 13 1 | 2 9 10 |
| I | JUNE. | 5 21 51 | 6 6 30 | | _ | (2 1 45 | 2 0 88 |
| | JULY. | 5 10 35 | 5 15 4 | | JULY. | 31 14 29 | 81 16 22 |
| | Aug | 3 23 19 | 3 23 2 | | 0 | (15 8 51 | 15 2 22 |
| | SEPT | 2 12 3 | 2 7 24 | | Aug | (30 8 18 | 80 7 48 |
| | | 2 0 47 | 1 16 52 | | SEPT | 28 15 57 | 28 22 11 |
| | Oct. O | {16 19 9 | 16 23 17 | | Oct | 28 4 41 | 28 11 85 |
| | | \31 13 31 | 31 3 59 | | Nov | 26 17 25 | 26 28 58 |
| | Nov | 30 2 15 | 29 16 56 | 1 | DEC | 26 6 9 | 26 11 7 |
| | DEC | 29 14 59 | 29 7 38 | 579. | Jan | 24 18 54 | 24 21 22 |
| | | | | 6 7 9. E. | | 8 18 16 | 8 20 56 |
| 582. | JAN | 28 3 44 | 27 23 48 | | O Feb | 28 7 38 | 28 6 49 |
| В. | FEB | 26 16 28 | 26 16 43 | 27 21 18 | MAR. | 24 20 22 | 24 16 1 |
| 28 3 52 | MAR | 28 5 12 | 28 9 31 | 4. 21. 10 | APRIL | 28 9 6 | 28 1 44 |
| | APRIL | 26 17 56 | 27 1 16 | | MAY. | 22 21 50 | 22 12 46 |
| | MAY . | 26 6 40 | 26 15 16 | | JUNE . | 21 10 31 | 21 1 46 |
| | June. | 24 19 24 | 25 3 22 | | JULY. | 20 23 18 | 20 16 47 |
| | JULY. | 24 8 8 | 24 13 52 | | | (4 17 40 | 4 14 36 |
| | Aug | 22 20 52 | 22 23 31 | | Aug | 19 12 2 | 19 9 22 |
| | SEPT | 21 9 36 | 21 9 2 | | SEPT. | 18 0 46 | 18 2 39 |
| | Ост | 20 22 20 | 20 19 3 | | Ocr | 17 13 30 | 17 19 84 |
| | Nov | 19 11 4 | 19 5 52 | | Nov. | 16 2 14 | 16 11 17 |
| | DEC | 18 23 48 | 18 17 35 | | DEC | 15 14 58 | |
| | 1. | | | | DEC | 10 14 99 | 16 1 12 |

| Mea Veri Equi | nal | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. () Full Ecl.) |
|---------------------|-------|--------|------------------------------------|------------------------------------|----------------------------|--------|--|------------------------------|
| B.6 | | | d. h. m. | d. h. m. | B.C. 575. | | d. h. m. | d. h. m. |
| D. | | JAN | 14 3 42 | 14 13 9 | G. | JAN | 10 18 53 | 11 0 7 |
| Mar | m. | FEB | 12 16 26 | 12 23 12 | March. $d. h. m.$ | FEB | 9 7 37 | 9 18 6 |
| 28 | | MAR | 14 5 10 | 14 7 48 | 27 20 33 | MAR | 10 20 21 | 11 9 34 |
| 1 | | APRIL | 12 17 54 | 12 15 37 | | APRIL | 9 9 5 | 9 21 59 |
| | ŀ | MAY . | 12 6 38 | 11 23 34 | | MAY . | 8 21 49 | 9 7 43 |
| | | June . | 10 19 22 | 10 8 42 | | June . | 7 10 33 | 7 15 36 |
| 1 | | JULY . | 10 8 6 | 9 19 58 | | JULY . | 6 23 17 | 6 22 41 |
| | Ì | Aug | 8 20 50 | 8 9 54 | | Aug | 5 12 1 | 5 6 7 |
| | | SEPT | 7 9 34 | 7 2 27 | | SEPT | 4 0 45 | 3 14 47 |
| | | Oct | 6 22 18 | 6 20 45 | | Oct | 3 13 29 | 3 1 28 |
| 1 | | Nov | 5 11 2 | 5 15 30 | | Nov | 2 2 13 | 1 14 37 |
| | | DEC | ∫ 4 23 4 6 | 5 9 15 | | D | (1 14 57 | 1 6 11 |
| | | 0 | 19 18 8 | 19 10 31 | | DEC | 31 3 41 | 30 23 39 |
| 57 | 77. | Jan | 3 12 31 | 4 0 56 | 574. | _ | 00 10 07 | 00 15 50 |
| C. | в. | FEB | 2 1 15 | 2 13 54 | F. | JAN | 29 16 25 | 29 17 58 |
| 27 | 8 56 | Mar | 2 13 59 | 3 0 16 | 20 0 00 | FEB | 28 5 9 | 28 11 52 |
| | | | 1 2 43 | 1 8 35 | 28 2 22 | MAR | 29 17 53 | 30 4 4 |
| | | APRIL | 30 15 27 | 30 15 43 | | 0 | 13 12 15 28 6 37 | 13 7 45 |
| | | MAY. | 30 4 11 | 29 22 37 | | APRIL | | 28 17 58 28 5 13 |
| | | 0 | (13 22 33 | 14 5 9 | | MAY . | 27 19 21 26 8 5 | 26 14 34 |
| | | June . | 28 16 55 | 28 6 27 | | JUNE . | 25 20 49 | 25 22 54 |
| | | JULY . | 28 5 39 | 27 16 15 | (7) | JULY. | 24 9 33 | 24 7 9 |
| | | Aug | 26 18 23 | 26 4 44 | | AUG | 22 22 17 | 22 16 11 |
| | | SEPT | 25 7 7 | 24 20 36 | | 1 | 7 16 39 | 7 18 13 |
| | | Oct | 24 19 51 | 24 14 51 | | OCT. | K22 11 1 | 22 2 35 |
| | | Nov | 23 8 35 | 23 10 21 | | Nov. | 20 23 45 | 20 14 36 |
| | | 0 | § 8 2 57 | 8 0 7 | i | DEC. | 20 12 29 | 20 4 19 |
| | | DEC | 22 21 19 | 23 5 26 | | DEC. | 20 12 20 | 20 1 20 |
| | 76. | JAN | 21 10 4 | 21 22 34 | 573. | JAN | 19 1 14 | 18 19 36 |
| 1 ' | A. | FEB | 19 22 48 | 20 12 49 | E.D. | FEB | 17 13 58 | 17 11 56 |
| 27 1 | 14 45 | MAR | 21 11 32 | 22 0 1 | 27 8 11 | MAR | 18 2 42 | 18 4 39 |
| | | APRIL | 20 0 16 | 20 8 43 | H | 0 | j 1 21 4 | - |
| | | MAY . | 19 13 0 | 19 15 49 | | APRIL | 16 15 26 | |
| | | 0 | ∫ 3 7 22 | 8 6 42 | | MAY . | 16 4 10 | 16 11 49 |
| | | JUNE . | (18 1 44 | 17 22 28 | 1 | JUNE . | 14 16 54 | |
| | | JULY . | | 1 | II | JULY . | 14 5 38 | 1 |
| | | Aug | | | | Aug | | |
| | | SEPT. | 1 | 1 | H | SEPT | $\begin{cases} 11 & 7 & 6 \\ 22 & 7 & 6 \end{cases}$ | |
| | | Ост. | 14 4 40 | 1 | | 0 | 126 1 28 | 1 |
| | | Nov. | 1 | 1 | | Oct. | 10 19 50 | 1 |
| | | 0 | 27 11 46 | | | Nov. | 9 8 34 | _ |
| 1 | | DEC. | 1268 | 12 4 48 | H | DEC. | 8 21 18 | 8 16 3 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|---------------|------------------------------------|------------------------------------|----------------------------|------------|---|----------------------|
| B.C. 572. | JAN | d. h. m. | d. h. m. | B.C. 569. | Jan | d. h. m. | d. h. m. |
| March. $d. h. m.$ | FEB | 5 22 46 | 5 16 54 | G.F. | 0 | 19 19 34 | 5 11 45 |
| 27 14 0 | MAR | (7 11 30 | 7 6 43 | March. | FEB. | 3 13 56 | 19 15 42 |
| | 0 | 22 5 52 | 22 16 34 | d. h. m. 27 7 26 | MAR. | 4 2 40 | 3 22 36 |
| | APRIL | 6 0 14 | 5 21 29 | 2 20 | APRIL | 2 15 24 | 4 7 43 |
| | MAY . | 5 12 58 | 5 12 51 | | TITELL | | 2 15 38 |
| | JUNE. | 4 1 42 | 4 4 14 | | MAY . | $\begin{cases} 2 & 4 & 8 \\ 31 & 16 & 52 \end{cases}$ | 1 23 13 |
| | JULY. | 3 14 26 | 3 19 1 | | Tress | 30 5 36 | 31 7 30 |
| | | (2 3 10 | 2 8 47 | | JUNE. | 1 | 29 17 32 |
| | Aug., | 31 15 54 | 31 21 26 | | 0 | 14 23 58 | 15 5 53 |
| | 0 | (15 10 16 | 14 20 39 | | JULY. | (29 18 20 | 29 6 8 |
| | SEPT | 30 4 38 | 30 9 15 | | Aug | 28 7 4 | 27 21 31 |
| | Oct. | 29 17 22 | 29 20 32 | | SEPT | 26 19 48 | 26 15 13 |
| | Nov. | 28 6 6 | 28 7 32 | | Oct | 26 8 32 | 26 10 5 |
| | DEC. | 27 18 50 | 27 18 19 | | Nov | 24 21 16 | 25 4 40 |
| | | 2. 10 00 | 24 10 19 | | Dec | 24 10 0 | 24 21 34 |
| 571. | Jan | 00 5 05 | | 500 | | (8 4 23 | 7 01 01 |
| В. | FEB. | 26 7 35 | 26 4 56 | 568. E. | O Jan | 22 22 45 | 7 21 31 |
| 27 19 49 | MAR. | 24 20 19 | 24 15 37 | | FEB. | 21 11 29 | 23 11 54 21 23 27 |
| 21 10 40 | | 26 9 3 | 26 2 52 | 27 13 15 | MAR. | 23 0 13 | |
| | APRIL May. | 24 21 47 | 24 15 15 | 2. 10 10 | APRIL | 21 12 57 | 23 8 34 21 16 3 |
| | JUNE . | 24 10 31 | 24 5 1 | | MAY . | 21 12 37 | _ |
| • | | 22 23 15 | 22 20 4 | | JUNE. | (19 14 25 | 20 22 50 |
| | JULY. | 22 11 59 | 22 11 54 | | | 4 8 47 | 19 6 2 |
| | SEPT. | 21 0 43 | 21 3 45 | | O July. | 19 3 9 | 4 15 12 |
| | Ост. | 19 13 27 | 19 18 59 | | Aug. | 17 15 53 | 18 14 45 17 1 57 |
| | Nov. | 19 2 11 | 19 9 13 | | SEPT. | 16 4 37 | |
| | DEC. | 17 14 55 | 17 22 16 | | Oct | 15 17 21 | 15 16 12 15 9 23 |
| | DEC | 17 3 39 | 17 10 5 | | Nov. | 14 6 5 | |
| E70 | _ | | | | DEC. | 13 18 49 | 14 4 30 14 0 2 |
| 570. ₄. | JAN | §15 16 24 | 15 20 44 | | .DEC | 10 10 40 | 14 0 2 |
| | _ 0 | (30 10 46 | 30 15 38 | 567. | JAN | 12 7 34 | 12 18 19 |
| 20 4 00 | FEB | 14 5 8 | 14 6 20 | D. | FEB. | 10 20 18 | 11 10 1 |
| 28 1 38 | MAR. | 15 17 52 | 15 15 21 | 27 19 4 | MAR. | 12 9 2 | 12 22 38 |
| | APRIL | 14 6 36 | 14 0 27 | | APRIL | 10 21 46 | 11 '8 24 |
| | MAY . | 13 19 20 | 13 10 31 | | MAY. | 10 10 30 | 10 16 7 |
| | JUNE . | 12 8 4 | 11 22 23 | | JUNE. | 8 23 14 | 8 22 53 |
| | JULY. | §11 20 48 | 11 12 23 | | JULY. | 8 11 58 | 8 5 44 |
| | . 0 | (26 15 10 | 26 14 39 | | Aug. | 7 0 42 | 6 13 47 |
| | Aug | 10 9 32 | 10 4 23 | | SEPT. | 5 13 26 | 5 0 0 |
| | SEPT | 8 22 16 | 8 21 39 | | Oct. | 5 2 10 | 4 13 1 |
| | Oct. | 8 11 0 | 8 15 8 | | Nov. | (8 14 54 | 3 4 55 |
| | Nov | 6 23 44 | 7 7 46 | | 0 | 18 9 16 | 18 14 39 |
| | DEC | 6 12 28 | 6 22 47 | | DEC. | 8 8 38 | 2 23 10 |
| 11 | 1 | | L 11 | 3 4 | | | 3 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|---------------------|----------------------------|--------------|--|---------------------|
| B.C. 566. | | d. h. m. | d. h. m. 1 18 26 | B.C. 563. | Jan | d. h. m. 27 20 16 | d. h. m |
| Ç. | JAN | 81 5 6 | 31 13 10 | F. | FEB. | 26 9 0 | 26 3 31 |
| March. | FEB | | | March. | 0 | (13 3 22 | 13 15 46 |
| d. h. m. 28 0 53 | Mar | { 1 17 50 31 6 34 | 2 5 52 31 19 45 | 27 18 19 | MAR APRIL | 27 21 44 26 10 28 | 27 17 31 26 8 25 |
| | APRIL | 29 19 18 | 30 6 45 | | MAY . | 25 23 12 | 25 23 47 |
| | 0 | (14 13 40 | 14 5 25 | | JUNE . | 24 11 56 | 24 15 2 |
| | MAY . | 29 8 2 | 29 15 27 | | JULY. | 24 0 40 | 24 5 33 |
| | JUNE . | 27 20 46 | 27 22 54 | | Aug | 22 13 24 | 22 19 2 |
| | JULY. | 27 9 30 | 27 6 9 | | 0 | (6 7 46 | 5 18 0 |
| | Aug | 25 22 14 | 25 14 16 | | SEPT | 21 2 8 | 21 7 32 |
| | SEPT | 24 10 58 | 24 0 1 | | Ocr | 20 14 52 | 20 19 17 |
| | Oct | 23 23 42 | 23 11 58 | | Nov | 19 3 36 | 19 6 34 |
| | 0 | 5 7 18 4 | 8 2 28 | | DEC | 18 16 20 | 18 17 26 |
| | Nov | 22 12 26 | 22 2 18 | 562. | т | 17 5 5 | 17 0 50 |
| | DEC | 22 1 10 | 21 18 47 | 862. E. | JAN Feb | 17 5 5 15 17 49 | 17 3 58 |
| 565. | JAN | 20 13 55 | 20 12 40 | | | | 15 14 20 3 1 42 |
| B.A. | FEB | 19 2 39 | 19 6 42 | 28 0 8 | O Mar | 2 12 11 17 6 33 | 17 0 57 |
| 27 6 42 | MAR. | 19 15 23 | 19 23 43 | 40 0 0 | APRIL | 15 19 17 | 15 12 26 |
| 0 11 | APRIL | 18 4 7 | 18 14 44 | | MAY . | 15 15 17 | 15 12 20 |
| | 0 | (2 22 29 | 2 15 41 | | June. | 13 20 45 | 13 15 40 |
| | MAY . | 17 16 51 | 18 3 19 | | July. | 13 9 29 | 18 7 15 |
| | JUNE. | 16 5 35 | 16 13 40 | | Aug | (11 22 13 | 11 23 32 |
| | JULY. | 15 18 19 | 15 22 33 | | 0 | 26 16 35 | 26 10 26 |
| | Aug | 14 7 3 | 14 6 56 | | SEPT | 10 10 57 | 10 15 16 |
| | SEPT | 12 19 47 | 12 15 43 | | Ост | 9 23 41 | 10 6 20 |
| 1 | Oct | (12 8 81 | 12 1 32 | | Nov | 8 12 25 | 8 20 14 |
| | 0 | 27. 2 53 | 27 7 16 | | DEC | 8 1 9 | 8 8 46 |
| | Nov | 10 21 15 | 10 12 46 | 561. | T | 6 13 54 | 6 20 0 |
| | DEC | 10 9 59 | 10 1 35 | D.C | JAN Feb | | 5 5 53 |
| 564. | JAN | 8 22 44 | 8 15 55 | | О . | 5 2 38 19 21 0 | 20 4 19 |
| G. | FEB. | 7 11 28 | 7 7 30 | 27 5 57 | MAR | 5 15 22 | 5 14 55 |
| 27 12 31 | MAR. | 9 0 12 | 8 23 51 | 5 5, | APRIL | 4 4 6 | 3 23 38 |
| | APRIL | 7 12 56 | 7 16 15 | | MAY. | 3 16 50 | 3 8 54 |
| | MAY. | 7 1 40 | 7 7 50 | | JUNE . | 2 5 34 | 1 19 37 |
| | JUNE . | 5 14 24 | 5 21 58 | | | (1 18 18 | 1 8 29 |
| | JULY. | 5 3 8 | 5 10 24 | | JULY. | $\begin{cases} 31 & 7 & 2 \end{cases}$ | 30 23 36 |
| | Aug. | 8 15 52 | 8 21 23 | | 0 | (15 1 24 | 14 22 33 |
| | SEPT | 2 4 36 | 2 7 34 | | Aug | 29 19 46 | 29 16 80 |
| | | (1 17 20 | 1 17 35 | | SEPT | 28 8 30 | 28 10 15 |
| | Ост | {31 6 4 | 31 3 55 | | Oct | 27 21 14 | 28 8 41 |
| f | Nov. | 29 18 48 | 29 14 50 | | Nov. | 26 9 58 | 26 19 47 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl |
|----------------------------|------------|------------------------------|------------------------------------|----------------------------|--------|-------------------|----------------------------------|
| A.D. 1019. | | d. h. m. | d. h. m. | A.D. 1022. | | d. h. m. | d. h. m. |
| D. March. | JAN | 9 0 48 | 9 1 8 | G. | JAN | E 15 50 | |
| d, h. m. | FEB | 7 13 32 | 7 20 9 | March. | FEB. | 5 15 58 4 4 42 | 5 11 1 |
| 15 17 54 | MAR | (9 2 16 | 9 13 30 | d. h. m. 15 11 21 | | | 3 23 0 |
| | 0 | 23 20 38 | 23 17 0 | 10 11 21 | MAR. | 5 17 26 | 5 11 46 |
| | APRIL | 7 15 0 | 8 4 11 | | APRIL | 4 6 10 | 4 1 31 |
| | MAY. | 7 3 44 | 7 15 54 | | MAY. | 3 18 54 | 3 16 13 |
| | June . | 5 16 28 | | | June. | 2 7 38 | 2 7 31 |
| | July. | 5 5 12 | | | | (1 20 22 | 1 22 51 |
| | | | 5 8 48 | | July O | 16 14 44 | 16 7 19 |
| | Aug | 3 17 56 | 3 16 0 | | | (31 9 6 | 31 13 36 |
| | SEPT | § 2 6 40 | 1 23 48 | | Aug | 29 21 50 | 30 3 22 |
| | 0 | (17 1 2 | 17 2 11 | | SEPT | 28 10 34 | 28 16 5 |
| | Oct | 5 1 19 24 | 1 9 2 | | Ост | 27 23 18 | 28 4 1 |
| | | (81 8 8 | 30 20 21 | | Nov | 26 12 2 | 26 15 24 |
| | Nov | 29 20 52 | 29 10 5 | | DEC | 26 0 46 | 26 2 23 |
| | DEC | 29 9 36 | 29 2 3 | | | | |
| 1020. | T | 27 22 20 | 97.10.00 | | 0 | § 9 19 8 | 9 22 48 |
| C.B. | JAN | | 27 19 38 | 1023. | JAN | 24 13 30 | 24 12 59 |
| 4, | FEB | 26 11 4 | 26 13 45 | F. | FEB | 23 2 14 | 22 23 22 |
| 11.00.10 | 0 | §12 5 26 | 12 8 46 | 15 17 10 | MAR | 24 14 58 | 24 9 52 |
| 14 28 48 | MAR | 26 23 48 | 27 7 11 | | APRIL | 23 3 42 | 22 21 4 |
| | APRIL | 25 12 32 | 25 22 48 | | MAY . | 22 16 26 | 22 9 31 |
| | MAY. | 25 1 16 | 25 12 0 | | JUNE . | 21 5 10 | 20 23 30 |
| | June. | 23 14 0 | 23 22 53 | | 0 | (5 28 32 | 6 0 28 |
| | July . | 28 2 44 | 28 8 5 | | JULY. | 20 17 54 | 20 14 50 |
| | Aug | 21 15 28 | 21 16 30 | | Aug | 19 6 38 | 19 6 53 |
| | 0 | (5 9 50 | 5 2 8 | | SEPT | 17 19 22 | 17 22 55 |
| | SEPT | 20 4 12 | 20 1 5 | | Ост | 17 8 6 | 17 14 14 |
| | Ocr | 19 16 56 | 19 10 35 | | Nov | 15 20 50 | 16 4 27 |
| | Nov | 18 5 40 | 17 21 25 | | DEC | (15 9 34 | 15 17 21 |
| | DEC | 17 18 24 | 17 9 48 | | 0 | 30 3 56 | 29 22 21 |
| 1021. | ~ | 10 5 0 | 15 00 40 | | | ` | |
| ۸. | JAN | 16 7 9 | 15 23 46 | 1024. E.D. | JAN | 13 22 19 | 14 4 55 |
| ~~ | FEB | 14 19 58 | 14 15 3 | 1 | FEB | 12 11 3 | 12 15 10 |
| | 0 | 1 14 15 | 2 0 54 | 14 22 59 | MAR. | 12 23 47 | 13 0 22 |
| 15 5 82 | MAR | (16 8 87 | 16 7 17 | | APRIL | 11 12 31 | 11 9 4 |
| | APRIL | 14 21 21 | 14 28 45 | | MAY . | 11 1 15 | 10 18 8 |
| | MAY . | 14 10 5 | 14 15 87 | | JUNE . | (9 13 59 | 9 4 24 |
| | June . | 12 22 49 | 13 6 11 | | 0 | 24 8 21 | 24 16 11 |
| | JULY. | 12 11 33 | 12 19 3 | | JULY. | 9 2 43 | 8 16 33 |
| | Aug | (11 0 17 | 11 6 24 | | Aug | 7 15 27 | 7 7 10 |
| | 0 | 25 18 39 | 25 5 12 | | SEPT | 6 4 11 | 5 23 42 |
| | SEPT | 9 13 1 | 9 16 42 | | Ост | 5 16 55 | 5 17 20 |
| | Ocr | 9 1 45 | 9 2 42 | | Nov. | 4 5 39 | 4 10 57 |
| | Nov. | 7 14 29 | 7 12 55 | | DEC. | (3 18 23 | 4 3 29 |
| | DEC | 7 8 18 | 6 23 40 | | O O | 18 12 45 | 18 3 26 |
| | יייטארעני. | 1 0 10 | 0 20 40 | | 9 | (TO 15 49 | 10 0 20 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Mouth. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------|------------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| A.D. 1025. | | d. h. m. | d. h. m. | A.D. 1028. | | d. h. m. | d. h. m. |
| с. | | (2 7 8 | 2 18 8 | G.F. | JAN | 29 11 1 | 29 14 37 |
| | JAN | 31 19 52 | | d. $h.$ $m.$ | FEB | 27 28 45 | 28 8 50 |
| March. | FEB | | 1 6 35 | 14 22 14 | MAR | 28 12 30 | 29 0 51 |
| d. h. m. | | (2836 | 2 16 53 | | 0 | ∫12 6 52 | 12 1 42 |
| 15 4 47 | MAR | 31 21 20 | (1 1 27 | | APRIL | 27 1 14 | 27 18 59 |
| | APRIL | 30 10 4 | 30 9 1 | | MAY . | 26 18 58 | 27 0 23 |
| | MAY . | 29 22 48 | 29 16 33 | | June . | 25 2 42 | 25 8 45 |
| | JUNE. | 28 11 32 | 28 1 3 | | JULY. | 24 15 26 | 24 16 11 |
| | July. | 28 0 16 | 27 11 37 | | Aug | 23 4 10 | 22 23 48 |
| | Aug | 26 13 0 | 26 0 53 | | SEPT | 21 16 54 | 21 8 18 |
| | SEPT | 25 1 44 | 24 17 0 | | 0 | f 6 11 16 | 6 14 21 |
| , | Oct | 24 14 28 | 24 11 15 | | Oct | 21 5 38 | 20 18 89 |
| | Nov. | 23 3 12 | 23 6 20 | | Nov | 19 18 22 | 19 7 12 |
| | DEC | 22 15 56 | 23 0 44 | | DEC | 19 7 6 | 18 22 1 |
| | | | 04 15 5 | | | | |
| 1026. B. | JAN | 21 4 40 | 21 17 7 | 1029. | JAN | 17 19 50 | 17 14 48 |
| | FEB | 19 17 24 | 20 6 44 | E. | FEB. | 16 8 34 | 16 8 81 |
| 15 10 36 | Mar | 21 6 8 | 21 17 33 | 15 4 3 | MAR. | 17 21 18 | 18 2 18 |
| | APRIL | 19 18 52 | 20 2 6 | 10 ± 0 | APRIL | 16 10 2 | 16 18 42 |
| | 0 | 4 13 14 | 4 13 32 | | MAY. | 15 22 46 | 16 9 6 |
| | MAY . | 119 7 36 | 19 9 13 | | JUNE . | 14 11 30 | 14 21 11 |
| | JUNE. | 17 20 20 | 17 15 56 | | JULY . | 14 0 14 | 14 7 17 |
| | JULY. | 17 9 4 | 16 23 24 | | Aug. | 12 12 58 | 12 16 10 |
| | Aug | 15 21 48 | 15 8 40 | | SEPT. | 11 1 42 | 11 0 47 |
| | SEPT | 14 10 32 | 13 20 37 | | Oct. | 10 14 26 | 10 9 58 |
| | Oct | 13 23 16 | 13 11 41 | | Nov. | 9 8 10 | 8 20 12 |
| | 0 | 128 17 38 | | | DEC. | 8 15 54 | 8 7 49 |
| | Nov. | 12 12 0 | 12 5 29 | | DE0 | 0 20 02 | |
| 1 | DEC | 12 0 44 | 12 0 54 | 1000 | - | 7 4 90 | 0.00 #9 |
| 1027. | JAN | 10 13 29 | 10 20 18 | 1030. | JAN | 7 4 89 | 6 20 58 |
| A. | FEB. | 9 2 13 | 9 14 0 | | FEB | 5 17 28 20 11 45 | 20 28 47 |
| 15 16 25 | MAR | 10 14 57 | 11 4 55 | 15 0 50 | MAR. | 7 6 7 | 7 2 50 |
| | APRIL | 9 3 41 | | 15 9 52 | | | 5 19 1 |
| | 0 | 23 22 3 | | | MAY. | 5 18 51 | 5 11 7 |
| | MAY . | 8 16 25 | 1 | | JUNE. | 3 20 19 | 4 2 22 |
| | June . | 7 5 9 | | | JULY. | 3 9 3 | 8 16 18 |
| | JULY. | 6 17 53 | | | JOLX. | 1 21 47 | 2 4 29 |
| | Aug | 5 6 37 | 1 | | Aug.O | 16 16 9 | 16 2 84 |
| | SEPT | 3 19 21 | 1 - | | A.04.0 | 31 10 31 | 81 15 29 |
| | OCT | 3 8 5 | 1 . | | SEPT. | 29 23 15 | 30 1 50 |
| | NTarr | 18 2 27 | | | | 29 25 15 | 29 12 7 |
| | Nov. | | | | Nov. | 28 0 43 | 27 22 42 |
| | DEC. | 1 9 38 | 1 | | TD | 27 18 27 | 27 22 42 |
| | | 30 22 17 | 30 19 26 | | DEC | 21 10 21 | 21 0 30 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1031. | | d. h. m. | d. h. m. | A.D. 1034, | | d. h. m. | d. h. m. |
| C. | JAN | 26 2 11 | 25 21 12 | F. | JAN | 22 17 21 | 23 4 55 |
| March. | 0 | (9 20 33 | 10 9 41 | March. | FEB | 21 6 5 | |
| d. $h.$ $m.$ | FEB | 24 14 55 | 24 9 18 | d. h. m. 15 9 7 | MAR. | 22 18 49 | |
| 5 15 40 | MAR. | 26 3 39 | 25 22 14 | 10 0 1 | APRIL | 1 | 23 1 22 |
| | APRIL | 24 16 23 | 24 12 11 | | MAY. | | 21 9 10 |
| | MAY . | 24 5 7 | 24 3 3 | | | | 20 16 26 |
| | JUNE . | 22 17 51 | 22 18 25 | | 0 | 4 14 39 | 4 23 12 |
| | JULY. | 22 6 35 | 22 9 39 | | JUNE. | (19 9 1 | 19 0 13 |
| | 0 | 6 0 57 | | | JULY. | 18 21 45 | 18 9 35 |
| i | Aug. | 20 19 19 | | | Aug | 17.10 29 | 16 21 28 |
| | SEPT. | 1 | | | SEPT | 15 23 13 | 15 12 16 |
| | | | 19 13 43 | | Oct | 15 11 57 | 15 5 41 |
| | Ocr | 18 20 47 | 19 2 18 | | Nov | $\int 14 0 41$ | 14 0 42 |
| | Nov. , | 17 9 81 | 17 14 9 | | 0 | \28 1 9 3 | 28 14 20 |
| | DEC | 16 22 15 | 17 1 24 | | DEC | 13 13 25 | 18 19 46 |
| 1032. | JAN | 15 11 0 | 15 12 10 | 1035. | JAN | 12 2 10 | 12 13 21 |
| B.A. | FEB | 18 28 44 | 18 22 27 | E. | FEB | 10 14 54 | 11 4 23 |
| 14 21 29 | MAR | 14 12 28 | 14 8 34 | 15 14 56 | MAR. | 12 3 38 | 12 16 29 |
| | APRIL. | 18 1 12 | 12 19 3 | -0 11 00 | APRIL | 10 16 22 | 11 1 57 |
| | MAY . | 12 18 56 | 12 6 35 | | May . | (10 5 6 | 10 9 34 |
| | JUNE . | 11 2 40 | 10 19 38 | | 0 | 24 23 28 | 25 0 36 |
| | JULY. | (10 15 24 | 10 10 18 | | JUNE. | 8 17 50 | 8 16 17 |
| | 0 | 25 9 46 | 25 7 43 | | JULY. | 8 6 34 | 7 23 14 |
| | Aug | 9 4 8 | 9 2 11 | | Aug. | 6 19 18 | 6 7 28 |
| | SEPT. | 7 16 52 | 7 18 33 | | SEPT. | 5 8 2 | 4 18 5 |
| | Our. | 7 5 86 | 7 10 36 | | Oct. | 4 20 46 | 4 7 39 |
| | Nov. | 5 18 20 | 6 1 41 | | | | |
| | DEC. | 5 7 4 | 5 15 26 | | Nov | 3 9 30 | |
| | 10160. | 5 4 4 | 3 13 20 | | ~ 0 | 18 3 52 | 18 6 9 |
| 1033. | JAN | 3 19 49 | 4 8 44 | | DEC | 2 22 14 | 2 19 4 |
| G. | FEB. | 2 8 83 | 2 14 30 | | | (1 10 58 | 1 14 41 |
| 15 8 18 | MAR. | 8 21 17 | 4 0 2 | 1036. | JAN | 30 23 42 | 31 9 22 |
| | APRIL | 2 10 1 | 2 8 42 | D.C. | Ton | 29 12 27 | |
| | EXPRIL | | 1 17 15 | | FEB | 29 12 21 | 1 1 42 |
| | MAY . | 1 22 45 | | 14 20 45 | MAR | K | |
| | | \\ 81 11 29 | 81 2 85 | | | (30 1 11 | 30 15 0 |
| | _o | ∫15 5 51 200 0 10 | 15 15 14 | | APRIL | 28 13 55 | 29 1 20 |
| | June . | 80 0 13 | 29 13 39 | | MAY . | 28 2 39 | 28 9 26 |
| 1 | July. | 29 12 57 | 29 3 1 | | June . | 26 15 23 | 26 16 22 |
| | Aug | 28 1 41 | 27 18 48 | | JULY. | 26 4 7 | 25 23 13 |
| | SEPT | 26 14 25 | 26 12 7 | | Aug | 24 16 51 | 24 7 4 |
| | Oct | 26 8 9 | 26 6 8 | | SEPT | 23 5 35 | 22 16 51 |
| | Nov | 24 15 58 | 24 23 32 | | Ocr | 22 18 19 | 22 5 14 |
| | | 1 . 0 .0 | 0 0 47 | | λT | 1 44 - 0 | 1 00 00 00 |
| | 0 | 9 10 15 | 9 0 47 | | Nov | 21 7 3 | 20 20 28 |

| | | | | 1 | | 1 | |
|----------|--------|------------------------|--------------|--------------------|--------|--------------|------------------------|
| Mean | | Mean New | True New | Mean | | Mean New | True New |
| Vernal | Month. | Moon. (O Full Ecl.) | Moon. | Vernal Equinox. | Month. | Moon. | Moon. (O Full Ecl.) |
| Equinox. | | (O Full Ect.) | (O Fun Mei.) | Equinox. | | (O Fan Ect.) | (O E un Edia) |
| A.D. | | | | A.D. | | | |
| 1037. | | d. h. m. | d. h. m. | 1040. | | d. h. m. | d. h. m. |
| В. | JAN | 19 8 31 | 19 8 58 | F.E. | JAN | 16 23 41 | 16 19 45 |
| March. | FEB | 17 21 15 | 18 3 42 | March. | FEB | 15 12 25 | 15 7 18 |
| d. h. m. | | 19 9 59 | 19 20 49 | d. h. m. | MAR. | 16 1 9 | 15 19 29 |
| 15 2 33 | MAR. | | | 14 20 0 | | ì | |
| | . 0 | 3 4 21 | 3 0 49 | | APRIL | 14 13 53 | 14 8 98 |
| 1 | APRIL | 17 22 43 | 18 11 20 | | MAY . | 14 2 37 | 13 22 51 |
| | MAY. | 17 11 27 | 17 23 2 | | June. | 12 15 21 | 12 13 56 |
| | June. | 16 0 11 | 16 8 22 | Ų | JULY. | 12 4 5 | 12 5 28 |
| | JULY. | 15 12 55 | 15 16 15 | | Aug | 10 16 49 | 10 20 80 |
| | Aug | 14 1 39 | 13 23 45 | | SEPT | 9 5 33 | 9 10 50 |
| | SEPT | (12 14 23 | 12 7 53 | | Oct | 8 18 17 | 9 0 11 |
| 1 | 0 | 27 8 45 | 27 9 32 | | Nov | 771 | 7 12 88 |
| | Ост | 12 3 7 | 11 17 26 | | DEC | 6 19 45 | 7 0 19 |
| | Nov. | 10 15 51 | 10 4 56 | | DEC | 0 10 10 | . 0 10 |
| | Dec. | 10 4 35 | 9 18 36 | 1041. | JAN | (5 8 30 | 5 11 19 |
| | DEC | 10 ± 55 | 9 10 90 | D. | JAN | 20 2 52 | 20 6 89 |
| 1038. | JAN | 8 17 20 | 8 10 17 | 2. | | | |
| A. | FEB | 7 6 4 | 7 3 26 | | FEB | 8 21 14 | 8 21 40 |
| 15 8 22 | MAR | (81848 | 8 21 4 | 15 1 49 | MAR | 5 9 58 | 5 7 86 |
| -5 5 | 0 | 23 13 10 | 23 16 53 | | APRIL | 3 22 42 | 8 17 84 |
| | APRIL | 7 7 32 | 7 14 7 | | MAY. | 8 11 26 | 3 4 14 |
| | MAY. | 6 20 16 | | | JUNE . | 2 0 10 | 1 16 16 |
| | _ | | | | | (1 12 54 | 168 |
| 1 | JUNE. | 5 9 0 | 5 18 51 | | JULYO | 16 7 16 | 16 7 59 |
| | Jura. | 4 21 44 | 5 5 59 | | | 81 1 88 | 80 21 28 |
| | Aug | 3 10 28 | 3 15 33 | | Aug | 29 14 22 | 29 18 51 |
| | SEPT | 1 23 12 | 2 0 25 | | SEPT. | 28 3 6 | 28 6 25 |
| | 0 | 16 17 34 | 16 9 19 | | Oct | 27 15 50 | 27 22 21 |
| | Oct. | 1 11 56 | 1 9 28 | | | 1 | |
| | 001 | 31 0 40 | 30 19 18 | | Nov. | 26 4 34 | |
| | Nov | 29 13 24 | 29 6 17 | | DEC | 25 17 18 | 26 2 10 |
| | DEC | 29 2 8 | 28 18 31 | | | (9 11 41 | 0 0 07 |
| 1039. | T | 07 14 50 | | 1042. | 0 | 13 | 9 6 27 |
| €. | JAN | 27 14 53 | 27 8 4 | 0. | JAN | 24 6 8 | 24 18 41 |
| - | FEB | 26 3 37 | 25 22 48 | 11 | Fев | 22 18 47 | 22 28 89 |
| 15 14 11 | . 0 | 12 21 59 | 13 9 4 | 15 7 38 | MAR | 24 7 31 | 24 8 28 |
| 15 14 11 | MAR. | 27 16 21 | 27 14 26 | | APRIL | 22 20 15 | 22 16 44 |
| | APRIL | 26 5 5 | 26 6 28 | | MAY . | 22 8 59 | 22 1 22 |
| 1 | MAY. | 25 17 49 | 25 22 9 | | June . | 20 21 43 | 20 11 20 |
| 1 | JUNE. | 24 6 33 | 24 12 48 | | 0 | (5 16 5 | 5 28 17 |
| 1 | JULY. | 23 19 17 | 24 2 2 | | JULY . | 20 10 27 | 19 28 28 |
| | Aug | 22 8 1 | 22 13 52 | | Aug | 18 23 11 | 18 14 4 |
| 1 | 0 | 6 2 23 | 5 12 37 | | SEPT. | 17 11 55 | 17 6 52 |
| | SEPT | 20 20 45 | 21 0 45 | | Oct. | 17 0 39 | 17 0 55 |
| | Ост | 20 9 29 | 20 11 15 | | Nov. | 15 13 23 | 15 19 0 |
| | Nov. | 18 22 13 | 18 21 48 | | DEC. | | |
| | DEC. | 18 10 57 | 18 8 38 | | DEC | 14 | 15 11 58 |
| | | 10 10 31 | 10 0 98 | | ' | 129 20 29 | 29 12 0 |
| | | | - | 19- | | 1 | |

| Mean | | Mean New | True New | Mean | | Moon W. | // m |
|--------------------|--------|-----------|------------------------|--------------------|---------|------------------------------|--|
| Vernal Equinox. | Month. | Moon. | Moon. (O Full Ecl.) | Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 1043. | | d. h. m. | d. h. m. | A.D. 1046. | | d. h. m. | d. h. m. |
| March. | JAN | 18 14 51 | 14 2 41 | E. | JAN | 10 6 1 | 10 3 26 |
| d. h. m. | FEB | 12 3 35 | 12 15 1 | March. d. h. m. | FEB | 8 18 45 | 8 22 16 |
| 15 18 86 | MAR | 13 16 19 | 14 1 4 | 15 6 53 | Mar | 10 7 29 | 10 16 11 |
| | APRIL | 12 5 3 | 12 9 19 | | APRIL | (8 20 13 | 9 7 59 |
| | MAY . | 11 17 47 | 11 16 35 | | 0 | 23 14 35 | 23 9 12 |
| | JUNE . | 10 6 31 | 9 23 51 | | MAY . | 8 8 57 | 8 21 3 |
| | JULY . | 9 19 15 | 9 8 14 | | June . | 6 21 41 | 7 7 31 |
| | Aug | 8 7 59 | 7 18 46 | | JULY. | 6 10 25 | 6 16 5 |
| | SEPT | 6 20 43 | 6 8 9 | | Aug | 4 23 9 | 4 23 49 |
| | Oct | 6 9 27 | 6 0 28 | | SEPT. | 3 11 53 | 3 7 42 |
| | Nov | 4 22 11 | 4 18 58 | | Oct | (3 0 37 | 2 16 38 |
| | DEC | 4 10 55 | 4 14 19 | | 0 | 17 18 59 | 17 22 3 |
| | | | 10 | | Nov. | 1 13 21 | |
| 1044. | T | 0.00.40 | | | 11012 . | (125) | $\begin{cases} 1 & 3 & 14 \\ 30 & 15 & 48 \end{cases}$ |
| 1044. A.G. | JAN | 2 28 40 | 8 8 55 | | DEC | 30 14 49 | |
| | FEB | 1 12 24 | 2 1 19 | | | 100 14 49 | 30 6 25 |
| 14 19 15 | MAR | {2 1 8 | 2 14 48 | | | | |
| | | (81 18 52 | 5 1 1 26 | 1047. | JAN | 29 3 34 | 28 22 43 |
| | APRIL | 30 2 36 | 180 9 45 | D. | FEB | 27 16 18 | 27 15 59 |
| | _ 0 | 14 20 58 | 14 20 6 | 15 12 42 | MAR | 29 5 2 | 29 9 15 |
| | MAY . | 29 15 20 | 29 16 43 | | APRIL | 27 17 46 | 28 1 28 |
| 1 | JUNE. | 28 4 4 | 27 28 24 | | MAY. | 27 6 30 | 27 15 52 |
| | July . | 27 16 48 | 27 6 52 | | JUNE . | 25 19 14 | 26 4 8 |
| | Aug | 26 5 82 | 25 16 15 | | JUI.Y . | 25 7 58 | 25 14 34 |
| | SEPT | 24 18 16 | 24 4 22 | | Aug | 23 20 42 | 23 23 54 |
| | Oct | 24 7 0 | 28 19 35 | | SEPT | 22 9 26 | 22 9 0 |
| | 0 | 8 1 22 | 8 5 0 | | Oct | 21 22 10 | 21 18 35 |
| | Nov | 22 19 44 | 22 18 27 | | Nov | 20 10 54 | 20 5 4 |
| | DEC | 22 8 28 | 22 8 52 | | DEC | 19 23 38 | 19 16 39 |
| 1045. | JAN | 20 21 12 | 21 4 11 | 1048. | Jan | 18 12 22 | 18 5 23 |
| F. | FEB | 19 9 56 | 19 21 45 | C.B. | FEB | 17 1 6 | 16 19 17 |
| 15 1 4 | MAR | 20 22 40 | 21 12 81 | | 0 | j 2 19 28 | 3 7 58 |
| | APRIL | 19 11 24 | 20 0 12 | 14 18 31 | Mar | 17 18 50 | 17 10 12 |
| | 0 | 1 4 5 46 | 8 28 8 | | APRIL | 16 2 34 | 16 1 50 |
| | MAY . | 119 0 8 | 19 9 16 | | MAY. | 15 15 18 | 15 17 39 |
| | JUNE . | 17 12 52 | 17 16 40 | | JUNE. | 14 4 2 | 14 8 53 |
| | July . | 17 1 86 | 16 23 28 | | JULY. | 13 16 46 | 13 22 58 |
| | Aug | 15 14 20 | 15 6 49 | | Aug | ∫12 5 30 | 12 11 43 |
| | SEPT | 14 8 4 | 18 15 40 | | 0 | 26 23 52 | 26 10 0 |
| | Ocr | 18 15 48 | 18 2 48 | | SEPT | 10 18 14 | 10 23 15 |
| | 0 | 28 10 10 | 28 17 1 | | Oct | 10 6 58 | 10 10 11 |
| | Nov | 12 4 82 | 11 16 89 | | Nov | 8 19 42 | 8 20 54 |
| | DEC | 11 17 16 | 11 9 6 | | DEC | 8 8 26 | 8 7 40 |
| | | | | 1 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------|---------------------------------|
| A.D. 1049. | | d. h. m. | d. h. m. | A.D. 1052. | | d. h. m. | d. h. m. |
| Α. | JAN | 6 21 11 | 6 18 36 | March. | JAN | 4 12 21 | 4 28 49 |
| | FEB | 5 9 55 | 5 5 44 | d. h. m. | FEB | 8 1 5 | 8 13 24 |
| March. $d. h. m.$ | 0 | 120 4 17 | 20 17 35 | 14 17 46 | MAR | 3 13 49 | 4 0 25 |
| 15 0 19 | MAR | 6 22 39 | 6 17 16 | | APRIL | 2 2 33 | 2 9 20 |
| | APRIL | 5 11 23 | 5 5 35 | | 75 | (1 15 17 | 1 16 50 |
| | MAY . | 5 0 7 | 4 19 1 | | MAY . | (31 4 1 | 80 28 58 |
| | JUNE . | 3 12 51 | 3 9 34 | | 0 | (14 22 28 | 15 5 41 |
| | JULY. | 3 1 35 | 3 0 54 | | JUNE . | 29 16 45 | 29 7 28 |
| | | (1 14 19 | 1 16 24 | | JULY. | 29 5 29 | 28 16 48 |
| | Aug. O | 16 8 41 | 15 22 42 | i i | Aug | 27 18 18 | 27 4 45 |
| | | 31 3 3 | 31 7 25 | | SEPT | 26 6 57 | 25 19 48 |
| | SEPT | 29 15 47 | 29 21 34 | | Oct | 25 19 41 | 25 18 28 |
| | Oct | 29 4 31 | 29 10 44 | 1 | Nov. | 24 8 25 | 24 8 86 |
| | Nov. | 27 17 15 | 27 22 58 | | 0 | (9 2 47 | 8 28 16 |
| | DEC | 27 5 59 | 27 10 21 | | DEC. | 23 21 9 | 21 8 52 |
| | | } | | | | | |
| 1050. | JAN | 25 18 44 | 25 20 57 | 1053. | JAN | 22 9 58 | 22 21 29 |
| G. | FEB | 24 7 28 | 24 6 52 | C. | FEB | 20 22 37 | 21 12 26 |
| 15 6 8 | MAR | 25 20 12 | 25 16 29 | 14 23 35 | MAR | 22 11 22 | 28 0 28 |
| | APRIL | 24 8 56 | 24 2 26 | | APRIL | 21 0 6 | 21 9 89 |
| | MAY . | 23 21 40 | 23 13 29 | | MAY . | 20 12 50 | 20 17 5 |
| | JUNE. | 22 10 24 | 22 2 15 | | 0 | § 4 7 12 | 4 7 4 |
| | JULY. | 21 23 8 | 21 16 53 | | June . | 19 1 84 | 18 28 48 |
| | 0 | 5 5 17 30 | 5 15 24 | | JULY. | 18 14 18 | 18 6 41 |
| | Aug | 20 11 52 | 20 9 0 | | Aug | 17 8 2 | 16 15 4 |
| | SEPT | 19 0 36 | 19 1 50 | | SEPT | 15 15 46 | 15 1 49 |
| | Ocr | 18 13 20 | 18 18 27 | | Ocr | 15 4 30 | 14 15 88 |
| | Nov | 17 2 4 | 17 10 4 | ŀ | Nov | (18 17 14 | 18 8 14 |
| | DEC | 16 14 48 | 17 0 9 | | 0 | 28 11 86 | 28 15 1 |
| 1051. | Jan. | 15 3 32 | 15 12 30 | | DEC | 18 5 58 | 18 8 5 |
| F. | FEB. | 13 16 16 | 13 23 6 | 1054 | T | 77 70 40 | 11 00 00 |
| 15 11 57 | MAR. | 15 5 0 | 15 25 6 | 1054. в. | JAN | 11 18 42 | 11 22 86 |
| | APRIL | 13 17 44 | 13 16 29 | 15 5 24 | FEB | 10 7 26 | 10 17 8 |
| | MAY. | 13 6 28 | 13 10 29 | 10 9 24 | MAR. | 11 20 10 | 12 9 18 |
| | JUNE . | (11 19 12 | 11 9 38 | | APRIL | 10 8 54 | 10 22 27 |
| | 0 | 26 13 34 | 26 22 19 | | MAY. | 9 21 38 | 10 8 41 |
| | JULY. | 11 7 56 | 10 20 32 | | JUNE . | 8 10 22 | 8 16 48 |
| | Aug. | 9 20 40 | 9 9 53 | | JULY. | 7 28 6 | 7 28 50 |
| | SEPT. | 8 9 24 | 8 1 46 | | Aug | 6 11 50 | 6 6 58 |
| | Oct. | 7 22 8 | 7 19 31 | | SEPT | 5 0 84 | 4 15 0 |
| | Nov. | 6 10 52 | 6 13 58 | | Oct | 4 13 18 | 4 1 2 |
| | Dec. | (5 23 36 | 6 7 47 | | Nov | 8 2 2 | 2 18 88 |
| | 0 | 20 17 58 | 20 9 29 | | DEC | 2 14 46 | 2 4 44 |
| | 1 | 30 | | | | L | 81 22 8 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|---|--|----------------------------|---------------|---|------------------------------------|
| A.D. 1055. | | d. h. m. | d. h. m. | A.D. 1058. | | d. h. m. | d. h. m. |
| Α. | JAN | 30 16 14 | 30 16 43 | D. | JAN | 27 7 25 | 27 4 28 |
| March. | FEB | (00 10 14 | 20 10 49 | March. $d. h. m.$ | FEB. | 25 20 9 | 25 15 31 |
| d. h. m. 15 11 12 | | ∫ 1 4 59 | 1 11 7 | 15 4 39 | MAR. | 27 8 53 | 27 3 7 |
| 10 11 12 | MAR | (30 17 43 | 31 3 58 | | APRIL | 25 21 37 | 25 15 40 |
| 1 | . 0 | $\int 14 \ 12 \ 5$ | 14 8 32 | | MAY . | 25 10 21 | 25 5 28 |
| i i | APRIL | 129 6 27 | 29 18 22 | | JUNE . | 23 23 5 | 23 20 23 |
| | MAY. | 28 19 11 | 29 6 6 | | JULY. | 23 11 49 | 23 11 58 |
| | JUNE . | 27 7 55 | 27 15 35 | | Aug | 22 0 33 | 22 3 30 |
| | JULY. | 26 20 39 | 26 23 46 | | SEPT | 20 13 17 | 20 18 25 |
| | Aug | 25 9 28 | 25 7 38 | | Ост | 20 2 1 | 20 8 23 |
| | SEPT | 28 22 7 | 23 16 9 | | Nov | 18 14 45 | 18 21 19 |
| | Oct | 28 10 51 | $\begin{bmatrix} 8 & 17 & 2 \\ 23 & 2 & 0 \end{bmatrix}$ | | DEC | 18 3 29 | 18 9 14 |
| | Nov | 21 23 85 | 21 13 36 | | | | j |
| | DEC | 21 12 19 | 21 3 9 | 1059. | JAN | ∫16 16 13 | 16 20 10 |
| | | | | C. | 0 | \81 10 85 | 31 14 22 |
| 1056. | JAN | 20 1 4 | 19 18 29 | | FEB | 15 4 57 | 15 6 15 |
| G.F. | FEB | 18 13 48 | 18 11 6 | 15 10 28 | MAR | 16 17 41 | 16 15 42 |
| 14 17 1 | MAR | 19 2 82 | 19 4 15 | | APRIL | 15 6 25 | 15 1 9 |
| | APRIL | $\begin{cases} 2 & 20 & 54 \\ 17 & 15 & 16 \end{cases}$ | 3 0 53 | | MAY . | 14 19 9 | 14 11 18 |
| | MAY. | 17 15 16 | 17 20 56 | | JUNE . | 13 7 53 | 12 23 0 |
| | JUNE . | 15 16 44 | 17 12 15 | | JULY. | ∫12 20 37 | 12 12 38 |
| 1 | July . | 15 5 28 | 16 1 89 15 18 6 | | 0 | 27 14 59 | 27 15 33 |
| | Aug. | 18 18 12 | 18 28 7 | | Aug | 11 9 21 | 11 4 10 |
| | SEPT. | (12 6 56 | 12 8 28 | | SEPT | 9 22 5 | 9 20 56 |
| | 0 | \{27 1 18 | 26 16 41 | | Oct | 9 10 49 | 9 14 2 |
| 1 | Oct | 11 19 40 | 11 17 58 | | Nov | 7 23 33 | 8 6 30 |
| | Nov | 10 8 24 | 10 4 7 | | DEC | 7 12 17 | 7 21 37 |
| | DEC | 9 21 8 | 9 15 10 | 1000 | _ | | |
| 1057. | ~ | 0 0 50 | | 1060. B.A. | JAN | $\begin{cases} 6 & 1 & 2 \\ 33 & 73 & 34 \end{cases}$ | 6 10 56 |
| 1087. | JAN. | 8 9 52 | 8 8 18 | | 0 | 120 19 24 | 20 14 29 |
| 14 22 50 | Figs. | 6 22 86 | 6 16 17 | 14 16 17 | FEB | 4 13 46 | 4 22 20 |
| 14 22 30 | Mar | $\begin{cases} 8 & 11 & 20 \\ 28 & 5 & 42 \end{cases}$ | 8 6 25 28 17 2 | T# TO T. | MAR | 5 2 30 | 5 7 59 |
| | APRIL | 7 0 4 | 6 21 29 | | APRIL MAY. | 8 15 14 | 3 16 24 3 0 17 |
| | MAY . | 6 12 48 | 6 18 4 | | JUNE . | 1 16 42 | 8 0 17 |
| , | June . | 5 1 82 | 5 4 87 | | OUMB. | 1 10 42 | 30 18 18 |
| | JULY. | 4 14 16 | 4 19 25 | | July O | 15 23 48 | 16 6 41 |
| | Aug | 8 8 0 | 8 9 2 | | | 30 18 10 | 30 6 21 |
| | SEPT | f 1 15 44 | 1 21 25 | | Aug | 29 6 54 | 28 21 4 |
| | 0 | 16 10 6 | 15 20 12 | | SEPT | 27 19 38 | 27 14 9 |
| 1 | Ocr | $\left\{ \begin{array}{ccc} 1 & 4 & 28 \\ 80 & 17 & 12 \end{array} \right.$ | 1 8 54 | | Oct | 27 8 22 | 27 8 87 |
| | Nov | 29 5 56 | 80 19 58 29 6 44 | | Nov | 25 21 6 | 26 8 6 |
| | DEC. | 28 18 40 | 28 17 84 | | DEC | 25 9 50 | 25 20 16 |
| [| 2.101 | -C 20 30 | AU AI UT | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (() Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|-------------------------------------|------------------------------|
| A.D. 1061. | | d. h. m. | d. h. m. | A.D. 1064. | | d. h. m. | d. h. m. |
| G. | 0 | 6 9 4 13 | 8 20 34 | D.C. | JAN | 21 13 45 | 21 11 19 |
| | JAN | 23 22 35 | 24 11 9 | March. | FEB | 20 2 29 | 20 5 47 |
| March. | FEB | 22 11 19 | 22 23 21 | d. h. m. 14 15 31 | MAR | 20 15 13 | 20 28 22 |
| d. h. m. 14 22 5 | MAR. | 24 0 3 | 24 9 8 | 11 10 01 | APRIL | 19 3 57 | 19 14 59 |
| 11 22 0 | APRIL | 22 12 47 | 22 17 5 | | 0 | (3 22 19 | 3 16 38 |
| | MAY. | 22 1 31 | 22 0 4 | | MAY . | 18 16 41 | 19 4 3 |
| | June. | 20 14 15 | 20 7 11 | | JUNE . | 17 5 25 | 17 14 38 |
| | JULY. | 20 2 59 | 19 15 30 | | JULY . | 16 18 9 | 16 23 28 |
| | | 18 15 43 | 18 2 6 | | AUG. | 15 6 53 | 15 7 34 |
| | Aug | | | | | 13 19 37 | 13 15 51 |
| | SEPT | 17 4 27 | 16 15 36 | | SEPT | | 13 1 8 |
| | Ост | 16 17 11 | 16 8 5 | | Ocr | (13 8 21 | 28 5 52 |
| | Nov | 15 5 55 | 15 2 49 | | O | 28 2 43 | 28 5 52 11 11 55 |
| У. | DEC | 14 18 39 | 14 22 21 | | Nov | 11 21 5 | |
| 1000 | - | 10 7 00 | 10 10 50 | | DEC | 11 9 49 | 11 0 28 |
| 1062. F. | JAN | 13 7 23 | 13 16 59 | | | | |
| | FEB | 11 20 7 | 12 9 21 | 1065. | JAN | 9 22 33 | 9 14 48 |
| 15 3 54 | MAR | 13 8 51 | 13 22 42 | В. | FEB | 8 11 17 | 8 6 36 |
| | APRIL | 11 21 35 | 12 9 7 | 14 21 20 | MAR | 10 0 1 | 9 23 19 |
| 1 | MAY. | [11 10 19] | 11 17 16 | | APRIL | 8 12 45 | 8 16 8 |
| | 0 | 126 4 41 | 26 2 36 | | MAY . | 8 1 29 | 888 |
| | JUNE. | 9 23 3 | 10 0 9 | | JUNE . | 6 14 13 | 6 22 32 |
| | JULY . | 9 11 47 | 9 6 50 | | JULY . | 6 2 57 | 611 2 |
| | Aug | 8 0 31 | 7 14 26 | | Aug. | 4 15 41 | 4 21 54 |
| | SEPT | 6 13 15 | 5 23 59 | | SEPT. | 3 4 25 | 3 7 45 |
| | Oct | 6 1 59 | 5 12 15 | ll. | Oct. | 2 17 9 | 2 17 21 |
| | Nov | § 4 14 48 | 4 3 34 | 1 | 001. | (1 5 53 | 1 3 17 |
| | 0 | 19 9 5 | 19 13 48 | | Nov. | 30 18 37 | 80 18 57 |
| | DEC. | 4 3 27 | 3 21 29 | | DEC | 30 7 21 | 80 1 28 |
| 1063. | JAN. | 2 16 12 | 2 16 50 | 11 | | | |
| E. | FEB. | 1 4 56 | 1 | 1066. | JAN | 28 20 6 | 28 13 51 |
| 15 9 43 | MAR. | 2 17 40 | 3 5 20 | Δ. | FEB | 27 8 50 | 27 8 10 |
| | | 1 6 24 | 1 19 57 | | 0 | (14 3 12 | 14 16 1 |
| | APRIL | 30 19 8 | | 15 3 9 | MAR. | 28 21 34 | 28 17 28 |
| | | (15 13 30 | (I 1 99 | | APRIL | 27 10 18 | 27 8 38 |
| | MAY | 13 | 1) | | MAY . | 26 23 2 | 27 0 8 |
| | JUNE | | | | JUNE . | 25 11 46 | 25 15 28 |
| | JULY | | | | JULY . | 25 0 30 | 25 5 48 |
| | Aug. | | | | Aug. | 23 13 14 | 28 19 8 |
| | SEPT. | | | | 0 | (7 7 36 | |
| | Oct. | 1 | | | SEPT. | 22 1 58 | |
| | | 8 17 5 | | | _ | 21 14 42 | |
| | Nov. | 14 | | | Nov. | 20 3 26 | |
| | DEC. | 1 | i | | 70 | | |
| | JEC. | . 20 I | 0 22 17 20 | | DEC | 19 16 10 | 19 10 99 |

| Moan Vornal | Month. | Mean New Moon. | True New Moon, | Mean Vernal | Month. | Mean New | True New |
|----------------|------------|----------------|----------------|-----------------|-------------|---------------|------------------------|
| Equinox. | | () Full Ecl.) | (O Full Ecl.) | Equinox. | Month. | (O Full Ecl.) | Moon. (O Full Ecl.) |
| A.D. 1067. | | d. h. m. | d. h. m. | A.D. 1070. | | d. h. m. | d. h. m. |
| £4, | JAM | 18 4 55 | 18 8 26 | , C. | JAN | 14 20 5 | 15 8 13 |
| March. | Frm., | 16 17 89 | 16 14 10 | March. d. h. m. | FEB | 18 8 49 | 18 21 44 |
| d. h. m | () | f B 12 1 | 4 1 20 | 15 2 24 | MAR. | 14 21 88 | 15 8 34 |
| In H in | MAR. | 118 6 28 | 18 1 8 | | APRIL | 18 10 17 | 18 17 10 |
| 4 | Armin | 16 19 7 | 16 15 25 | | MAY . | 12 28 1 | 18 0 24 |
| 3 | MAY . | 16 7 61 | 16 1 48 | | June. | ſ11 11 45 | 11 7 15 |
| 1 | Jinn. | 14 20 85 | 14 16 8 | | 0 | £26 6 7 | 26 12 18 |
| | dray. | 14 9 19 | 11 7 24 | | JULY. | 11 0 29 | 10 14 49 |
| | | 112 22 8 | 12 23 11 | | Aug | 9 18 18 | 9 0 9 |
| | (*) | 127 16 25 | 27 6 81 | | SEPT | 8 1 57 | 7 12 11 |
| İ | | 11 10 47 | 11 14 45 | | Ocr | 7 14 41 | 7 8 21 |
| | Oct. | 10 28 81 | 11 5 82 | | Nov | 6 8 25 | 5 21 11 |
| | Nov. | 9 12 15 | 9 19 15 | | DEC | 5 16 9 | 5 16 35 |
| | Dar. | 9 0 59 | 9 7 49 | | 0 | (20 10 81 | 20 8 15 |
| 1088. | Jan | 7 18 48 | 7 19 16 | | | | |
| \$. St. | Fan. | 6 8 2 27 | 6 5 89 | 1071. | JAN | 4 4 58 | 4 11 54 |
| | () | 20 20 49 | 21 8 25 | 31. | Fкв | 2 17 87 | 8 5 80 |
| 14 11 47 | MAH. | 6 15 11 | 6 15 10 | 15 8 13 | MAR | 4 6 21 | 4 20 20 |
| | Aran | 5 8 55 | 5 0 16 | | APRIL | 2 19 5 | 8 8 6 |
| | May . | 4 16 89 | 4 9 48 | | MAY . | § 2 7 49 | 2 17 11 |
| , | Jens. | 8 5 28 | 2 20 22 | | | (81 20 88 | (1 0 81 |
| | Jusy . | 2 18 7 | 1 2 8 55 | | -0 | 15 14 55 | 15 18 29 |
| | | (1 6 51 | (81 28 82 | | JUNE . | 80 9 17 | (80 7 10 |
| | Ara. | 16 1 18 | 15 28 10 | | July. | 29 22 1 | 29 14 14 27 22 47 |
| | 1 | 80 19 85 | 180 15 56 | | AUG SEPT | 26 28 29 | 27 22 47 26 9 43 |
| | Harr. | 20 8 19 | 29 9 14 | | Our. | 26 12 18 | 25 28 35 |
| | Oct | 28 21 8 | 29 2 28 | | Nov. | 25 0 57 | 24 16 18 |
| | Nov | 27 9 47 | 27 18 29 | | 0 | (9 19 19 | 9 28 56 |
| | Dac | 26 22 81 | 27 8 50 | | DEC | 24 18 41 | 24 11 4 |
| i an di di | | 25 11 16 | 25 21 12 | | | • | |
| 1089. | JAH | 24 0 0 | | 1072. | JAN. | 28 2 26 | 28 6 25 |
| | Man. | 25 12 44 | 25 16 21 | A.G. | FEB | 21 15 10 | 22 0 44 |
| 14 20 30 | Arnit | 24 1 28 | | 14 14 2 | MAR | 22 8 54 | 22 16 48 |
| | May . | 28 14 12 | | | APRIL | 20 16 88 | 21 5 45 |
| | Juna . | | | | MAY . | 20 5 22 | 20 15 58 |
| | July . | 21 15 40 | | | June . | 18 18 6 | 19 0 9 |
| | Aug. | | | | JULY . | 18 6 50 | 1 |
| | Bert. | | 1 | | Aug | 16 19 84 | |
| | Oct. | | 1 | 11 | SEPT | 15 8 18 | |
| | Nov . | | 1 | 14 | Our | | 1 |
| | 1 | | 1 | 11 | Nov | 18 9 46 | 12 22 1 |
| | Dat. | (18 7 20 | 10 10 0 | 11 | DEC | 1 | 1 |

G G

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|---------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 1073. | | d. h. m. | d. h. m. | A.D. 1076. | | d. h. m. | d. h. m. |
| F. | JAN | 11 11 14 | 11 6 12 | C.B. | JAN | 9 2 24 | 9 2 30 |
| March. $d. h. m.$ | FEB | 9 23 58 | 10 0 23 | d. h. m. | FEB | 7 15 8 | 7 13 4 |
| 14 19 51 | MAR | 11 12 42 | 11 18 22 | 14 13 17 | MAR | 8 3 52 | 7 23 86 |
| | APRIL | (10 1 26 | 10 10 58 | | APRIL | 6 16 36 | 6 10 36 |
| | 0 | 24 19 48 | 24 16 8 | | MAY . | 6 5 20 | 5 22 87 |
| | MAY . | 9 14 10 | 10 1 17 | | June . | 4 18 4 | 4 12 2 |
| | June. | 8 2 54 | 8 13 6 | | July . | 4 6 48 | 4 2 51 |
| | JULY. | 7 15 38 | 7 22 50 | | Aug | 2 19 32 | 2 18 36 |
| | Aug | 6 4 22 | 6 7 21 | | ~ | 1 8 16 | 1 10 36 |
| | SEPT | 4 17 6 | 4 15 37 | | SEPT | (30 21 0 | (127 |
| | Oct | (4 5 50 | 4 0 31 | | Ост | 30 9 44 | 180 16 40 |
| | 0 | [19 0 12 | 19 0 39 | | Nov | 28 22 28 | 29 6 2 |
| | Nov | 2 18 34 | 2 10 39 | | DEC | 28 11 12 | 28 18 7 |
| . 1 | Drag | 5 2 7 18 | 1 22 20 | | | | |
| | Dec | [31 20 2 | 31 11 41 | 1077. | JAN | 26 28 57 | 27 4 58 |
| 1074 | T | 30 8 46 | 30 2 34 | Α. | 0 | (10 18 19 | 10 22 0 |
| 1074. E. | JAN Feb | 28 21 31 | 28 18 39 | | FEB | 25 12 41 | 25 14 48 |
| | | 30 10 15 | 30 11 17 | 14 19 6 | MAR. | 27 1 25 | 26 28 42 |
| 15 1 40 | MAR. | (14 4 37 | 14 8 43 | 11 10 0 | APRIL | 25 14 9 | 25 8 88 |
| | O April | 28 22 59 | 29 3 38 | | MAY. | 25 2 58 | 24 18 28 |
| | MAY. | 28 11 43 | 28 18 51 | | JUNE . | 23 15 37 | 28 5 47 |
| | June . | 27 0 27 | 27 8 25 | | JULY . | 28 4 21 | 22 19 20 |
| | JULY. | 26 13 11 | 26 20 14 | | 0 | (6 22 48 | 6 28 18 |
| | Aug. | 25 1 55 | 25 6 45 | | Aug | 21 17 5 | 21 10 59 |
| | SEPT. | 23 14 39 | 23 16 38 | | SEPT | 20 5 49 | 20 4 10 |
| | | (8 9 1 | 8 0 11 | | Ocr | 19 18 88 | 19 21 47 |
| 1 | Oct. | 23 3 23 | 23 2 33 | | Nov. | 18 7 17 | 18 14 46 |
| | Nov. | 21 16 7 | 21 12 59 | | DEC. | 17 20 1 | 18 6 12 |
| | DEC. | 21 4 51 | 21 0 4 | 4 | | | |
| 10 | | | | 1078. | JAN | (16 8 46 | 16 19 87 |
| 1075. D. | JAN | 19 17 35 | 19 11 51 | G. | O AN | 81 8 8 | 80 22 26 |
| | FEB | 18 6 19 | 18 0 25 | | FEB | 14 21 80 | 15 6 51 |
| 15 7 29 | MAR | 19 19 4 | 19 13 57 | 15 0 55 | MAR. | 16 10 14 | 16 16 12 |
| | A 70777 | 3 13 26 18 7 48 | 4 0 53 | _5 5 50 | APRIL | 14 22 58 | 15 0 14 |
| | APRIL MAY. | 17 20 32 | 18 4 26 | | May . | 14 11 42 | 14 7 45 |
| | JUNE. | 16 9 16 | 17 19 38 16 11 4 | | JUNE . | 18 0 26 | 12 15 46 |
| | JUNE. | 15 22 0 | | | JULY. | (12 13 10 | 12 1 21 |
| | Aug. | 14 10 44 | 16 2 4 14 16 7 | . | 0 | 27 7 32 | 27 14 0 |
| | SEPT. | (12 23 28 | 13 5 6 | | Aug | 11 1 54 | 10 18 28 |
| | O O | 27 17 50 | 27 3 59 | | SEPT | 9 14 98 | 9 4 15 |
| | OCT | 12 12 12 | 12 17 10 | | Ocr | 9 8 22 | 8 21 86 |
| | Nov. | 11 0 56 | 11 4 37 | | Nov | 7 16 6 | 7 16 25 |
| | DEC. | 10 13 40 | 10 15 41 | | DEC | 7 4 50 | 7 11 18 |
| | | 20 20 20 | ~0 10 31 | | | | |

| Mean Vernal Equinox, | Month. | Mean New Moon. () Full Ect.) | True New Moou. O Full Kel.) | Moan Vornal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-----------------------------|--|--|--|----------------------------|--|--|--|
| | Jan | Mount. | Moon. | Vernal | Month. JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT | Moon. (O Full Ecl.) d. h. m. 2 8 44 81 21 28 2 10 12 81 22 56 | Moon. |
| 1080. 10.00. 11 12 88 | Dic, , JAN, , Fill, , Man, , Arnii, May , Jene , Jene , Aru, , Surt , Nov. , | 26 2 22 21 15 7 23 8 51 23 16 85 22 5 19 21 18 8 (5 12 25 (20 6 47 19 19 81 18 8 15 16 20 59 10 9 48 (14 22 27 | 26 6 20 25 0 58 28 17 14 24 6 26 22 16 48 22 0 45 5 9 6 20 7 86 19 14 22 17 22 9 16 7 54 15 20 20 14 11 48 | 1083. A. 15 5 59 | OCT. ONOV. DEC. JAN. FRB. MAR. APRIL MAY. JUNE. JULY. AUG. SEPT. OCT. NOV. | \$\begin{array}{c c c c c c c c c c c c c c c c c c c | 8 18 45 22 20 41 22 9 9 20 28 8 19 14 23 21 6 88 19 22 56 19 14 42 18 5 11 17 18 0 16 5 20 14 15 48 14 1 49 12 12 8 |
| 1081. c. 11 18 22 | JAN | (29 16 49 14 11 11 12 28 56 11 12 40 18 1 24 11 14 8 (11 2 52 (25 21 14 9 15 86 9 4 20 7 17 4 6 5 48 5 18 82 (4 7 16 19 1 88 8 20 0 | 19 9 48 | 1084. u.r. 14 11 48 | DEC JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O Oct Nov DEC | 12 18 87 12 2 21 10 15 6 9 8 50 8 5 18 7 18 2 6 6 40 5 19 80 4 8 14 2 20 58 17 15 20 2 2 42 81 22 26 80 11 10 20 28 54 | 11 22 55 10 10 16 8 22 18 9 10 57 24 28 52 8 0 88 7 15 18 6 6 85 5 21 54 4 12 40 8 2 28 17 1 28 2 15 16 { 1 8 15 80 14 89 80 1 87 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------------|------------------------------------|------------------------------------|----------------------------|----------|------------------------------------|---------------------------------------|
| A.D. 1085. | | d. h. m. | d. h. m. | A.D. 1088. | | d. h. m. | d. h. m. |
| E. | JAN | 28 12 38 | 28 12 9 | B.A. | 0 | (11 9 26 | 11 2 52 |
| | FEB | 27 1 22 | 26 22 26 | | JAN | 26 3 48 | 26 16 30 |
| March. | 0 | (13 19 44 | 14 8 54 | March. d. h. m. | FEB | 21 16 32 | 25 5 54 |
| d. h. m. 14 17 37 | MAR | 28 14 6 | 28 8 52 | 14 11 3 | MAR | 25 5 16 | 25 16 81 |
| 11 1. 0. | APRIL | 27 2 50 | 26 20 2 | | APRIL | 23 18 0 | 24 0 58 |
| | MAY. | 26 15 34 | 26 8 30 | | MAY . | 23 6 44 | 28 7 55 |
| | JUNE . | 25 4 18 | 24 22 32 | | JUNE . | 21 19 28 | 21 14 89 |
| | JULY. | 24 17 2 | 24 13 57 | | 0 | (6 13 50 | 6 18 56 |
| | Aug. | 23 5 46 | 23 6 6 | | JULY. | 21 8 12 | 20 22 11 |
| | 0 | (7 0 8 | 6 14 28 | | Aug | 19 20 56 | 19 7 36 |
| | SEPT | 21 18 30 | 21 22 11 | | SEPT. | 18 9 40 | 17 19 48 |
| | Oct | 21 7 14 | 21 13 34 | | Ост. | 17 22 24 | 17 11 5 |
| | Nov. | 19 19 58 | 20 3 48 | | Nov. | 16 11 8 | 16 5 3 |
| | DEC. | 19 8 42 | 19 16 39 | | DEC. | (15 23 52 | 16 0 81 |
| | | | | | 0 | 30 18 14 | 80 17 11 |
| 1000 | T | 17 01 06 | 10 / 6 | | | | |
| 1086. | JAN. | 17 21 26 | 18 4 6 | 1089. | JAN | 14 12 36 | 14 19 50 |
| 2. | FEB | 16 10 11 | 16 14 14 | G. | FEB | 13 1 21 | 18 18 28 |
| 14.00.00 | 0 | 3 4 33 | 3 10 50 | 14 16 52 | MAR | 14 14 5 | 15 4 5 |
| 14 23 26 | MAR. | 10 11 20 | 17 23 19 | | APRIL | 18 2 49 | 18 15 41 |
| r | APRIL MAY | 16 11 39 16 0 23 | 16 7 58 15 16 58 | | MAY . | 12 15 33 | 18 0 41 |
| | JUNE . | 14 13 7 | 14 3 16 | | JUNE . | (11 4 17 | 11 7 59 |
| | JULY. | 14 1 51 | 18 15 38 | | 0 | 25 22 39 | 25 19 55 |
| | Aug. | (12 14 35 | 12 6 20 | | JULY . | 10 17 1 | 10 14 42 |
| | 0 | 27 8 57 | 27 7 4 | | Aug | 9 5 45 | 8 21 54 |
| | SEPT. | 11 3 19 | 10 23 0 | | SEPT | 7 18 29 | 7 6 40 |
| | Oct. | 10 16 3 | 10 16 45 | | Ocr | 7 7 18 | 6 17 48 |
| | Nov. | 9 4 47 | 9 10 26 | | Nov | 5 19 57 | 5 7 47 |
| | DEC. | 8 17 31 | 9 2 56 | | DEC | 5 8 41 | 5 0 27 |
| | DEG | 0 1. 01 | 0 2 00 | | 0 | 20 8 8 | 20 8 51 |
| 1087. | JAN | 7 6 15 | 7 17 29 | 1090. | JAN. | 8 21 25 | 8 19 8 |
| c. | FEB. | 5 18 59 | 6 5 45 | F. | FEB. | 2 10 9 | 2 11 9 |
| 15 5 15 | MAR. | 7 7 43 | 7 15 51 | 14 22 41 | MAR. | 8 22 58 | 4 8 12 |
| | APRIL | 5 20 27 | 6 0 17 | | APRIL | 2 11 87 | 2 23 59 |
| | MAY . | 5 9 11 | 5 7 47 | | ******** | (2 0 21 | 2 12 55 |
| | June . | 3 21 55 | 3 15 16 | | MAY . | 81 18 5 | 81 28 10 |
| | July . | 3 10 39 | 2 23 52 | | June . | 80 1 49 | 80 7 29 |
| | | (1 23 23 | 1 10 33 | | JULY . | 29 14 83 | 29 14 56 |
| | Aug | (31 12 7 | 31 0 3 | | Aug. | 28 8 17 | 27 22 81 |
| | SEPT | 30 0 51 | 29 16 21 | | SEPT. | 26 16 1 | 26 7 19 |
| | Oct | 29 13 35 | 29 10 46 | | Ocr | 26 4 45 | 25 17 50 |
| | Nov | 28 2 19 | 28 5 54 | | Nov. | 24 17 29 | 24 6 88 |
| | DEC | 27 15 3 | 28 0 15 | | DEC. | 24 6 18 | 28 21 27 |
| | 1 | | | | ~ MO | 23 O 10 | ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|---|---|---|---|--|--|--|
| A.D. 1091. E. March. d. h. m. 15 4 30 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG | d. h. m. 22 18 58 21 7 42 22 20 26 21 9 10 { 6 8 32 20 21 54 19 10 38 18 23 22 17 12 6 | d. h. m. 22 14 12 21 7 57 23 1 30 21 17 50 5 23 39 21 8 5 19 20 4 19 6 7 17 15 1 | A.D. 1094. A. March. d. h. m. 14 21 56 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 19 10 8 17 22 52 19 11 36 18 0 20 17 18 4 16 1 48 15 14 32 14 3 16 12 16 0 | d. h. m. 19 11 21 17 21 33 19 7 34 17 18 1 17 5 32 15 18 38 15 9 22 14 1 28 12 17 49 |
| 1092. | SEPT OCT O Nov DEC | 16 0 50 (15 13 34 (30 7 56 14 2 18 13 15 2 12 3 47 | 15 23 45 15 9 3 30 8 23 13 19 26 13 7 8 | 1095. G. | OCT Nov DEC JAN FEB | 12 4 44 10 17 28 10 6 12 8 18 57 (7 7 41 | 12 9 56 11 1 3 10 14 46 9 2 59 7 13 38 |
| D.C. 11 10 19 | FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O Nov DEC | 10 16 31 11 5 15 { 9 17 59 24 12 21 9 6 43 7 19 27 7 8 11 5 20 55 4 9 89 { 3 22 23 { 18 16 45 2 11 7 { 1 23 51 | 10 10 38 11 2 7 9 18 13 24 16 29 9 10 14 8 1 25 7 15 12 6 3 27 4 14 29 4 0 55 18 7 50 2 11 18 1 21 56 | 15 8 45 | MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 22 2 3 8 20 25 7 9 9 6 21 58 5 10 87 4 23 21 { 3 12 5 { 18 6 27 2 0 49 { 1 18 38 { 11 2 17 29 15 1 29 3 45 | 22 5 80 8 28 1 7 7 85 6 16 4 5 1 26 4 12 85 8 2 7 18 6 58 1 17 59 1 11 31 81 5 86 29 28 2 29 14 41 |
| 1003. n. 1116 8 | Nov. | 28 14 8 80 2 47 {13 21 9 {28 15 81 28 4 15 26 16 59 26 5 48 24 18 27 11 { 8 1 38 21 19 55 21 19 | 28 11 16 28 2 7 26 17 29 26 8 45 24 28 18 28 12 53 7 11 54 5 28 1 32 21 13 25 | 1093. F.E. | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEFT OCT NOV DEC. | 19 11 5 | 20 20 33 19 11 35 19 5 11 18 0 17 |

| | | | | 1 | | T | |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|----------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Menn New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 1097. | | d. h. m. | d. h. m. | A.D. 1100. | | d. h. m. | d. h. m. |
| D. | JAN | (16 1 18 | 16 12 48 | A.G. | JAN | 13 16 28 | 13 9 46 |
| 35 1 | 0 | (30 19 40 | 30 13 28 | March. $d. h. m.$ | FEB | 12 5 12 | 12 2 53 |
| d. $h.$ $m.$ | FEB | 14 14 2 | 15 3 38 | 14 8 49 | MAR | 12 17 56 | 12 20 25 |
| 14 15 23 | MAR | 16 2 46 | 16 15 31 | | APRIL | 11 6 40 | 11 13 20 |
| | APRIL | 14 15 30 | 15 0 49 | | MAY . | (10 19 24 | 11 4 37 |
| | MAY . | 14 4 14 | 14 8 17 | | 0 | 25 18 46 | 25 7 21 |
| | JUNE. | 12 16 58 | 12 14 59 | | June . | 988 | 9 17 46 |
| | JULY. | 12 5 42 | 11 21 58 | | JULY. | 8 20 52 | 9 4 51 |
| | Aug | 10 18 26 | 10 6 22 | | Aug | 7 9 36 | 7 14 25 |
| | SEPT. | 9 7 10 | 8 17 10 | | SEPT | 5 22 20 | 5 28 21 |
| | Oct | 8 19 54 | 8 6 58 | | Oct | 5 11 4 | 5 8 30 |
| 1 | Nov | 7 8 38 | 6 23 46 | | Nov. | (3 23 48 | 3 18 29 |
| | DEC. | 6 21 22 | 6 18 41 | | 0 | 18 18 10 | 18 21 42 |
| | DEC | 0 21 22 | 0 10 41 | | | 3 12 32 | 8 5 88 |
| | | | | | DEC | 5 12 52 | 3 5 55 |
| 1098. | JAN | 5 10 7 | 5 14 18 | | | (2 1 16 | 1 17 51 |
| C. | FEB | 3 22 51 | 4 8 50 | 1101. | Jan | 81 14 0 | 81 7 23 |
| 14 21 12 | MAR | 5 11 35 | 6 0 58 | F. | Fun | COT THE O | • |
| | APRIL | 4 0 19 | 4 14 1 | | FEB. | (2 2 44 | 1 22 4 |
| 1 | MAY . | 3 13 3 | 4 0 10 | 14 14 38 | MAR |] [| 81 18 89 |
| 1 | June . | 2 1 47 | 2 8 10 | | | (81 15 23 | |
| | JULY . | 5 1 14 31 | 1 15 4 | | APRIL | 30 4 12 | 80 5 85 |
| | JULI . | (31 3 15 | 30 23 59 | | MAY. | 29 16 56 | 29 21 12 |
| [4] | Aug | 29 15 59 | 29 5 59 | | JUNE. | 28 5 40 | 28 11 49 |
| | SEPT. | 28 4 43 | 27 15 57 | | July. | 27 18 24 | 28 1 0 |
| | Ост | 27 17 27 | 27 4 34 | | Aug | 26 7 8 | 26 12 51 |
| | Nov | 26 6 11 | 25 19 56 | | SEPT | 24 19 52 | 24 23 47 |
| | 0 | (11 0 33 | 11 7 28 | | Ocr | 24 8 36 | 24 10 28 |
| | Dec | 25 18 55 | 25 13 38 | | Nov | 22 21 20 | 22 21 1 |
| | | | | | DEC | 22 10 4 | 22 7 51 |
| 1099. | JAN | 24 7 39 | 24 8 31 | 1102. | Jan | 20 22 48 | 20 18 58 |
| В. | FEB. | 22 20 23 | 23 3 8 | 1102. E. | | | |
| 15 3 1 | MAR. | 24 9 7 | 24 20 2 | | FEB | 19 11 32 | 19 6 27 |
| | APRIL | 22 21 51 | 23 10 22 | 14 20 27 | MAR | 21 0 17 | 20 18 85 |
| | MAY. | 22 10 35 | 22 21 53 | | O | 4 18 39 | 5 7 85 |
| | 0 | (6 4 57 | 5 19 49 | | APRIL | (19 18 1 | 19 7 41 |
| | JUNE. | 20 23 19 | 21 7 8 | | MAY. | 19 1 45 | 18 21 54 |
| 1 | July. | 20 12 3 | 20 15 0 | | JUNE. | 17 14 29 | 17 12 51 |
| | AUG. | 19 0 47 | 18 22 34 | | JULY. | 17 8 18 | 17 4 28 |
| | SEPT. | 17 13 31 | 17 6 51 | | Aug | 15 15 57 | 15 19 88 |
| | Oct. | 17 2 15 | 16 16 34 | | SEPT | \{\)14 \(4 \)41 | 14 10 0 |
| | Nov. | (15 14 59 | 15 4 13 | | 0 | (28 23 3 | 28 9 18 |
| | 0 | 30 9 21 | 30 18 11 | | Oct | 13 17 25 | 18 28 24 |
| | DEC. | 15 3 43 | 14 18 0 | | Nov | 12 6 9 | 12 11 58 |
| | | TO 9 49 | 14 19 0 | | DEC | 11 18 53 | 11 23 84 |
| ' | ı | ! | 1 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) ((| True New Moon. Tull Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. Full Ecl.) |
|--|--|---|--|---|---|--|--|
| A.D. 1103. b. March. d. h. m. 15 2 16 | | 8 20 21 | d. h. m. 10 10 31 8 20 47 10 6 38 25 16 19 8 16 31 8 3 9 6 15 14 6 5 6 4 20 37 3 13 7 17 22 36 3 5 46 1 21 44 1 12 24 31 1 27 | A.D. 1108. G. March. d. h. m. 14 19 42 | Jan O Feb Mar April May . June . July . O Aug Sept Oct Nov Dec | d. h. m. { 6 22 48 {21 17 10 5 11 32 7 0 16 5 13 0 5 1 44 3 14 28 { 8 3 12 17 21 34 { 1 15 56 31 4 40 29 17 24 29 6 8 27 18 52 27 7 36 | d. h. m. 7 8 26 21 11 29 6 0 39 7 13 56 6 0 20 5 8 30 3 15 23 2 22 5 18 1 36 1 5 41 30 15 14 29 3 35 28 19 0 27 13 3 27 8 30 |
| 1104. c.B. | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 29 5 10 27 17 54 {13 12 16 28 6 38 26 19 22 26 8 6 24 20 50 24 9 84 22 22 18 { 6 16 40 21 11 2 20 28 46 19 12 30 19 1 14 | 29 12 50 27 22 40 13 18 3 28 7 21 26 15 32 26 0 9 21 10 11 28 22 28 22 13 14 6 15 5 21 6 12 21 0 23 19 18 31 19 11 20 | 1107. F. 15 1 81 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | $\begin{cases} 11 & 1 & 58 \\ 25 & 20 & 20 \\ 24 & 9 & 4 \\ 25 & 21 & 48 \\ 24 & 10 & 32 \\ 28 & 23 & 16 \\ 22 & 12 & 0 \\ 7 & 6 & 22 \\ 22 & 0 & 44 \\ 20 & 13 & 28 \\ 19 & 2 & 12 \\ 18 & 14 & 56 \\ 17 & 3 & 40 \\ 16 & 16 & 24 \\ 81 & 10 & 46 \\ \end{cases}$ | 11 2 5 26 3 42 24 21 5 26 11 38 24 28 6 24 8 8 22 15 22 7 2 23 21 22 13 20 5 41 18 14 42 18 2 2 16 16 3 16 8 38 31 17 44 |
| 1105. A. 14 18 54 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 14 5 89 18 18 28 12 7 7 10 19 51 10 8 85 8 21 19 | 11 17 46 10 7 22 9 23 58 8 18 38 | E.D. 14 7 20 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG. SEFT. OCT. NOV. DEC. | 10 20 49 10 9 33 8 22 17 7 11 1 6 23 45 | 6 15 43 5 2 27 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1109. | | d. h. m. | d. h. m. | A.D. 1112. | | d. h. m. | d. h. m. |
| c. | JAN | 3 13 58 | 3 5 51 | G.F. | _ | (157 | 1 9 36 |
| March. | FEB | 2 2 42 | 1 22 9 | | JAN | 80 17 51 | 80 20 6 |
| d. h. m. 14 13 9 | MAR | 3 15 26 | 3 15 21 | March. $d. h. m.$ | FEB | 29 6 85 | 29 5 54 |
| | APRIL | 2 4 10 | 2 8 29 | 14 6 35 | MAR | 29 19 19 | 29 15 25 |
| | | 1 16 54 | 2 0 35 | | APRIL | 28 8 3 | 28 1 19 |
| | May O | 16 11 16 | 16 7 7 | | MAY . | 27 20 47 | 27 12 24 |
| | | (31 5 38 | 31 14 50 | | JUNE . | 26 9 81 | 26 1 14 |
| | JUNE. | 29 18 22 | 30 3 1 | | JULY. | 25 22 15 | 25 15 59 |
| 1 | July. | 29 7 6 | 29 13 26 | | Aug | 24 10 59 | 24 8 13 |
| | Aug. | 27 19 50 | 27 22 49 | | SEPT. | 22 28 48 | 28 1 9 |
| 1 | SEPT. | 26 8 34 | 26 8 2 | | Ост. | 22 12 27 | 22 17 50 |
| | Ост. | 25 21 18 | 25 17 42 | | Nov. | 21 1 11 | 21 9 28 |
| | 0 | (9 15 40 | 9 16 12 | | DEC | 20 18 55 | 20 28 80 |
| | Nov. | 24 10 2 | 24 4 18 | | 22.201 | | |
| | DEC | 23 22 46 | 23 15 56 | 1113. | JAN | 19 2 40 | 19 11 44 |
| | 2200 | | | E. | FEB | 17 15 24 | 17 22 11 |
| 1110. | JAN | 22 11 30 | 22 4 42 | | 0 | (4 9 46 | 4 12 51 |
| В. | FEB | 21 0 14 | 20 18 33 | 14 12 24 | MAR. | 19 4 8 | 19 7 11 |
| 14 18 57 | Mar | 22 12 58 | 22 9 25 | | APRIL | 17 16 52 | 17 15 19 |
| | APRIL | 21 1 42 | 21 1 1 | | MAY . | 17 5 86 | 16 28 24 |
| | 0 | 5 20 4 | 6 0 6 | | JUNE . | 15 18 20 | 15 8 28 |
| | MAY . | 20 14 26 | 20 16 44 | | July . | 15 7 4 | 14 19 28 |
| | JUNE. | 19 3 10 | 19 7 56 | | Aug. | (18 19 48 | 18 9 0 |
| | July. | 18 15 54 | 18 21 59 | | 0 | 28 14 10 | 28 14 50 |
| | Aug | 17 4 38 | 17 10 44 | | SEPT. | 12 8 82 | 12 1 4 |
| | SEPT | 15 17 22 | 15 22 21 | | Oct. | 11 21 16 | 11 18 58 |
| | Ост | 515 6 6 | 15 9 20 | | Nov. | 10 10 0 | 10 18 81 |
| | 0 | 30 0 28 | 29 15 36 | | DEC. | 9 22 44 | 10 7 18 |
| | Nov | 13 18 50 | 13 20 6 | 1 | DEC | 0 22 44 | 10 / 10 |
| | DEC | 13 7 34 | 13 6 53 | 1114. | JAN | 8 11 29 | 8 28 18 |
| 1111. | JAN | 11 20 19 | 11 17 50 | D. | FEB | (7 0 18 | 7 12 87 |
| A. | FEB | 10 9 3 | 10 4 54 | | 0 | 21 18 85 | 21 14 8 |
| 15 0 46 | MAR. | 11 21 47 | 11 16 23 | 14 18 13 | MAR | 8 12 57 | 8 28 27 |
| | APRIL | (10 10 31 | 10 4 39 | | APRIL | 7 1 41 | 7 8 12 |
| | 0 | 25 4 53 | 25 16 8 | | MAY . | 6 14 25 | 6 15 85 |
| i | MAY . | 9 28 15 | 9 18 3 | | JUNE. | 5 8 9 | 4 22 84 |
| İ | JUNE. | 8 11 59 | 8 8 38 | | JULY. | 4 15 58 | 4 6 15 |
| | JULY. | 8 0 43 | 7 23 59 | | Aug | (8 4 87 | 2 15 48 |
| | Aug | 6 13 27 | 6 15 31 | | 0 | 17 22 59 | 18 4 49 |
| | SEPT | 5 2 11 | 5 6 35 | | SEPT | 1 17 21 | (1 8 52 |
| | Oct | (4 14 55 | 4 20 48 | | | (165 | 80 19 4 |
| | 0 | 19 9 17 | 18 19 59 | | Ocr | 80 18 49 | 80 12 58 |
| | Nov | 3 3 39 | 3 10 1 | | Nov | 29 7 88 | 29 8 14 |
| | DEC | 2 16 23 | 2 22 15 | | DEC. | 28 20 17 | 29 8 25 |
| 1 | | | | | | | |

| Mean Vernal Month. Mean New True New Mean New Me | |
|--|------------------------------|
| Equipox. (O Bull Ed) (O End Ed) Month. Moon. | True New Moon. (O Full Ecl.) |
| A.D. 1115. d. h. m. d. h. m. A.D. 1118. d. h. m | d. h. m. |
| C. JAN 27 9 1 27 20 55 F. JAN 24 0 11 | 23 17 54 |
| March. O \(\) \(| 22 10 28 |
| d. h. m. Fer (25 21 45 26 11 39 14 17 28 Mar 24 1 39 | 24 3 31 |
| 15 0 2 Mar. 27 10 29 27 23 22 APRIL 22 14 28 | 22 20 5 |
| APRIL 25 23 13 26 8 27 MAY . 22 3 7 | 22 11 16 |
| May . 25 11 57 25 15 46 O 6 5 21 2 | 5 14 38 |
| June. 24 0 41 23 22 24 June. 20 15 5 | 21 0 33 |
| July . 23 13 25 23 5 26 July . 20 4 35 | 20 11 58 |
| O 7 7 47 7 12 12 Aug 18 17 19 | 18 22 0 |
| Aug 122 2 9 21 13 58 Sept 17 6 5 | 17 7 26 |
| Sept. 20 14 53 20 0 56 Oct 16 18 47 | 16 17 3 |
| Oct 20 3 37 19 14 53 Nov 15 7 3 | 15 3 18 |
| Nov 18 16 21 18 7 46 0 (30 1 5 | 30 5 42 |
| DEC 18 5 5 18 2 41 DEC 14 20 18 | 14 14 25 |
| 1116. JAN 16 17 50 16 22 11 110 7 | |
| B.A. Feb 15 6 34 15 16 38 E. Feb. 11 91 4 | |
| 14 5 50 Mar. 15 19 18 16 8 80 | 1 |
| APRIL 14 8 2 14 21 25 14 28 17 MAR 13 10 29 | |
| MAY . 13 20 46 14 7 29 APRIL 11 23 1 | |
| June . 12 9 80 12 15 30 May . 11 11 5 | 1 |
| July . 11 22 14 11 22 32 June . 10 0 4 | |
| Aug. 10 10 58 10 5 42 July . 9 18 2 | |
| Series 9.08.49 9.19.57 | |
| Oct. 8 12 26 8 0 10 Sept. 6 14 5 | |
| Nov 7 1 10 6 12 54 | |
| DEC. 166 18 54 6 4 14 1 | |
| O 21 8 16 21 16 18 DEC. 4 5 | 4 5 58 |
| 1117. JAN 5 2 89 4 21 43 1120. JAN 2 17 4 | 2 16 50 |
| G. FEB. 8 15 23 8 16 15 D.C. FEB. 1 6 3 | 3 1 3 39 |
| 14 11 00 Man 5 4 7 5 10 80 (1 19 1 | 7 1 14 38 |
| April 816 51 4 3 9 14 5 6 Mar. 31 8 | 1 31 2 9 |
| | 3 15 15 9 |
| | 5 29 14 41 |
| O 16 12 41 16 2 48 MAY . 29 9 2 | 9 29 4 30 |
| | 3 27 19 27 |
| July . 30 19 47 30 22 32 July . 27 10 5 | 1 |
| Aug. 29 8 31 29 6 30 Aug. 25 23 4 | 1 26 2 41 |
| Sept. 27 21 15 27 15 10 Sept. 24 12 5 | 5 24 17 39 |
| Ocr. 27 9 59 27 1 8 0 5 9 6 | 1 |
| Nov. 25 22 48 25 12 54 Oct (24 1 | 9 24 7 39 |
| O (10 17 5 11 2 89 Nov 22 18 | 1 |
| DEC. 25 11 27 25 2 38 DEC. 22 2 | 37 22 8 30 |
| | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Mocn. (O Full Ecl.) |
|----------------------------|---------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1121. | | d. h. m. | d. h. m. | A.D. 1124, | | d. h. m. | d. h. m. |
| в. | JAN | 20 15 21 | 20 19 22 | F.E. | JAN | 18 6 31 | 18 16 29 |
| March. | FEB. | 19 4 5 | 19 5 20 | | 0 | (2 0 53 | 1 20 1 |
| d. h. m. 14 10 55 | Mar. | 20 16 49 | 20 14 41 | March. $d. h. m.$ | FEB | (16 19 15 | 17 8 39 |
| | 0 | (4 11 11 | 4 23 33 | 14 4 21 | MAR | 17 7 59 | 17 21 47 |
| 1 | APRIL | 19 5 33 | 19 0 1 | | APRIL | 15 20 43 | 16 8 0 |
| | MAY . | 18 18 17 | 18 10 11 | | MAY . | 15 9 27 | 15 16 0 |
| | JUNE. | 17 7 1 | 16 21 57 | | June . | 13 22 11 | 13 22 50 |
| | JULY. | 16 19 45 | 16 11 42 | | JULY. | (13 10 55 | 13 5 33 |
| | Aug | 15 8 29 | 15 3 21 | | 0 | 28 5 17 | 28 8 18 |
| | SEPT | (13 21 13 | 13 20 14 | | Aug | 11 23 39 | 11 13 17 |
| l l | 0 | 28 15 35 | 28 6 50 | | SEPT | 10 12 28 | 9 23 1 |
| | Oct | 13 9 57 | 13 13 27 | | Oct | 10 1 7 | 9 11 31 |
| 1 | Nov | 11 22 41 | 12 5 57 | | Nov | 8 13 51 | 8 3 2 |
| | DEC | 11 11 25 | 11 21 0 | | Dec | 8 2 35 | 7 21 4 |
| | _ | | | 1125. | JAN | 6 15 20 | 6 16 25 |
| 1122. | JAN | 10 0 10 | 10 10 13 | D. | 0 | 21 9 42 | 21 10 56 |
| Α. | FEB | 8 12 54 | 8 21 27 | | FEB | 5 4 4 | 5 11 26 |
| 14 16 43 | MAR. | 10 1 38 | 10 6 59 | 14 10 10 | MAR | 6 16 48 | 7 4 39 |
| | 0 | 24 20 0 | 25 1 9 | | APRIL | 5 5 32 | 5 19 2 |
| 1 | APRIL | 8 14 22 | 8 15 15 | | MAY. | 4 18 16 | 5 6 25 |
| | MAY . | 8 3 6 | 7 23 3 | | JUNE . | 3 7 0 | 8 15 21 |
| | JUNE. | 6 15 50 | 6 7 21 | | JULY. | 5 2 19 44 | 2 22 48 |
| | JULY. | 6 4 34 | 5 17 10 | | 0 | 17 14 6 | 17 8 57 |
| | Aug. | 4 17 18 | 4 5 24 2 20 19 | | Aug | § 1 8 28 | 1 5 52 |
| | SEPT | 8 6 2 | | | 1100. | (80 21 12 | 30 13 36 |
| | 0 | 18 0 24 2 18 46 | 17 23 15 | | SEPT | 29 9 56 | 28 22 54 |
| | Oct | 1 | 2 13 34 | | Ост | 28 22 40 | 28 10 21 |
| | Nov | 30 20 14 | 1 8 9 | | Nov | 27 11 24 | 27 0 27 |
| | DEC | 30 8 58 | | | Dec | 27 0 8 | 26 16 51 |
| | 1280 | 0000 | (90 T9 #9 | | 0 | (10 18 80 | 11 2 86 |
| 1100 | T | 00 01 10 | 00.10.07 | 1126. | JAN | (25 12 52 | 25 10 49 |
| 1123. G. | JAN | 28 21 43 | 29 10 27 | C. | FEB | 24 1 36 | 24 5 11 |
| 14 22 32 | FEB. | 27 10 27 | 27 22 28 | 14 15 59 | MAR | 25 14 20 | 25 22 88 |
| 14 22 23 | MAR. | 28 23 11 | 29 8 3 | | APRIL | 24 3 4 | 24 14 4 |
| | APRIL MAY. | 27 11 55 27 0 39 | 27 15 51 26 22 47 | | MAY . | 23 15 48 | 24 2 56 |
| | JUNE . | 1 | | | JUNE . | 22 4 32 | 22 13 27 |
| 1 | JULY. | 25 13 23 25 2 7 | 25 5 55 | | 0 | 6 22 54 | 6 12 2 |
| | Aug. | 28 14 51 | 24 14 21 23 1 7 | | JULY. | (21 17 16 | 21 22 16 |
| | SEPT. | 22 3 35 | 28 1 7 21 14 51 | | Aug | 20 6 0 | 20 6 23 |
| | OCT. | 21 16 19 | 21 14 51 21 7 34 | | SEPT | 18 18 44 | 18 14 48 |
| | Nov. | 20 5 3 | 20 2 26 | | Ocr | 18 7 28 | 18 0 13 |
| 1 | DEC. | 19 17 47 | 19 21 57 | | Nov | 16 20 12 | 16 11 9 |
| | 220 | 20 11 41 | 10 41 01 | | DEC. | 16 8 56 | 15 28 49 |
| 1 | 1 | 10 | | l (| | 2 | |

| Mean Vornal Equinox. | Month. | Mean New Moon. Full Ecl.) | Irue New Moon.) Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | Trae New Moon. O Full Ecl.) |
|---|--|--|---|---|--|---|--|
| A.D. 1127. B. March. d. h. m. 14 21 47 | FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV | 13 10 25 14 28 9 13 11 53 13 0 37 27 18 59 11 13 21 | d. h. m. 14 14 11 18 5 58 14 22 38 18 15 21 18 7 13 27 14 32 11 21 30 11 9 57 9 20 40 8 6 43 7 16 24 6 2 28 21 0 6 5 13 13 | A.D. 1130. E. March. d. h. m. 14 15 14 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | d. h. m. 11 12 51 10 1 35 11 14 19 10 3 3 9 15 47 8 4 31 7 17 15 6 5 59 4 18 48 4 7 27 2 20 11 { 2 8 55 81 21 39 | d. h. m. 11 18 29 10 4 45 11 14 9 9 23 10 9 8 34 7 19 17 7 7 54 5 22 42 4 15 18 4 8 88 3 1 51 2 17 55 |
| 1128. A.G. 14 8 36 | JAN FEB MAR APRIL MAY O JUNE . JULY . AUG SEPT OOT O Nov DEC | 4 6 30 2 19 14 8 7 58 1 20 42 (1 9 26 16 8 48 80 22 10 2.) 10 54 28 28 38 27 12 22 26 1 6 25 18 50 { 9 8 12 24 2 84 23 15 18 | 4 0 46 2 13 6 8 2 23 1 16 39 1 7 45 16 7 39 30 23 18 29 14 27 29 4 51 27 19 7 26 6 20 25 17 51 8 23 32 24 4 59 23 15 53 | 1131. D. | JAN FER O MAR APRIL MAY . JUNE . JULY . AUG . OCT . Nov DEC. | \[\begin{array}{c} \cdots \\ 30 & 10 & 23 \\ 28 & 23 & 8 \\ 15 & 17 & 30 \\ 30 & 11 & 52 \\ 29 & 0 & 36 \\ 28 & 18 & 20 \\ 27 & 2 & 4 \\ 26 & 14 & 48 \\ 25 & 3 & 82 \\ 8 & 21 & 54 \\ 23 & 16 & 16 \\ 28 & 5 & 0 \\ 21 & 17 & 44 \\ 21 & 6 & 28 \end{array} | 1 8 11 30 20 22 (1 6 86 15 20 6 30 15 13 28 22 58 28 6 43 26 15 33 26 2 28 24 16 4 8 22 49 23 8 22 23 2 36 21 21 30 21 15 34 |
| 1129. F. 14 9 25 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | 22 4 2 20 16 46 22 5 30 20 18 14 5 12 36 20 6 58 18 19 42 18 8 26 16 21 10 15 9 54 514 22 38 629 17 0 18 11 22 18 0 6 | 22 2 87 20 13 15 22 0 10 20 11 51 5 23 84 20 0 47 18 15 5 18 6 29 16 22 21 15 13 58 15 4 48 | 1132. c.b. | JAN. FEB. O MAR. APRIL MAY JUNE JULY AUG. O SEPT. OCT. NOV. DEC. | 18 7 56 { 4 2 18 { 18 20 40 17 9 24 16 22 8 15 10 52 14 23 36 { 13 12 20 { 28 6 42 1 11 13 48 | 28 12 22 11 11 21 11 2 42 2 9 20 43 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) |
|----------------------------|--------|--|------------------------------------|----------------------------|--------|------------------------------------|
| A.D. 1133. | | d. h. m. | d. h. m. | A.D. 1136. | | d. h. m. |
| A. | JAN | 8 4 1 | 8 11 27 | E.D. | JAN | 5 19 11 |
| 35 1 | FEB | 6 16 45 | 7 4 54 | d. h. m. | FEB | 4 7 55 |
| March. $d. h. m.$ | 0 | 21 11 7 | 21 6 3 | 14 2 7 | MAR | 4 20 39 |
| 14 8 40 | MAR | 8 5 29 | 8 19 30 | | APRIL | 3 9 23 |
| | APRIL | 6 18 13 | 7 7 2 | | MAY . | 2 22 7 |
| | MAY. | 6 6 57 | 6 15 58 | | | / 1 10 51 |
| | JUNE . | 4 19 41 | 4 23 14 | | JUNEO | 16 5 13 |
| | JULY . | 4 8 25 | 4 5 53 | | | 30 23 35 |
| | Aug | (2 21 9 | (2132 | | JULY . | 30 12 19 |
| | 0 | 17 15 31 | 317 19 12 | | Aug | 29 1 3 |
| | _ | (1 9 53 | (31 21 45 | | SEPT | 27 13 47 |
| | SEPT | 30 22 37 | 30 8 53 | | Ост. | 27 2 31 |
| | Oct | 30 11 21 | 29 22 59 | | Nov. | 25 15 15 |
| | Nov | 29 0 5 | 28 15 52 | | 0 | (10 9 37 |
| | DEC. | 28 12 49 | 28 10 39 | | DEC | 25 3 59 |
| | | | | | 220. | 120 0 00 |
| 1134. | JAN. , | 27 1 34 | 27 5 58 | 440= | - | 00 10 11 |
| G. | FEB | 25 14 18 | 26 0 7 | 1137 c. | JAN | 23 16 44 |
| 14 14 29 | MAR. | 27 3 2 | 27 15 54 | | FEB | 22 5 28 |
| | APRIL | 25 15 46 | 26 4 43 | 14 7 56 | MAR. | 23 18 12 |
| | MAY . | 25 4 30 | 25 14 46 | | APRIL | 22 6 56 |
| | JUNE . | 23 17 14 | 23 22 52 | | MAY . | 21 19 40 |
| | JULY . | 23 5 58 | 23 6 6 | | June . | 20 8 24 |
| | Aug | 21 18 42 | 21 13 32 | | July . | 19 21 8 |
| | SEPT | 20 7 26 | 19 22 5 | | Aug | 18 9 52 |
| | Ост | 19 20 10 | 19 8 33 | | SEPT | 16 22 36 |
| | Nov | 18 8 54 | 17 21 22 | | Oct | 16 11 20 |
| | DEC | 17 21 38 | 17 12 34 | | Nov | 15 0 4 |
| | | | | | DEC | 14 12 48 |
| | 0 | ∫ 1 16 0 | 2 1 7 | | | |
| 1135. | JAN | 16 10 22 | 16 5 43 | 1138. | JAN | 13 1 32 |
| F. | FEB | 14 23 6 | 14 23 50 | В. | FEB | 11 14 16 |
| 14 20 18 | MAR | 16 11 50 | 16 17 43 | 14 13 45 | MAR | 13 3 0 |
| | APRIL | 15 0 34 | 15 10 7 | | APRIL | ∫11 15 44 |
| | MAY. | 14 13 18 | 15 0 16 | | 0 | 26 10 6 |
| | June . | $\begin{cases} 13 & 2 & 2 \end{cases}$ | 13 11 57 | | MAY . | 11 4 28 |
| | _ 0 | 127 20 24 | 27 9 39 | | June . | 9 17 12 |
| | JULY. | 12 14 46 | 12 21 37 | | JULY . | 9 5 56 |
| | AUG | 11 3 30 | 11 6 11 | | Aug | 7 18 40 |
| | SEPT., | 9 16 14 | 9 14 32 | | SEPT | 6 7 24 |
| | Oct | 9 4 58 | 8 23 35 | | Ост | ∫ 5 20 8 |
| | Nov | 7 17 42 | 7 9 51 | | _ 0 | 20 14 30 |
| | DEC | 7 6 26 | 6 21 39 | | Nov | 4 8 52 |
| | 0 | 122 0 48 | 22 11 3 | | DEC | 3 21 36 |
| | | l · | | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (() Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|---|-------------------------------------|
| A.D. 1139. | | d. h. m. | d. h. m. | A.D. 1142. | | d. h. m. | d. h. m. |
| Α. | JAN | § 2 10 21 | 2 17 23 | D. | JAN | 28 14 15 | 29 0 26 |
| March. | 024. | (31 23 5 | | March. | 0 | ſ12 8 37 | 12 4 28 |
| d. $h.$ $m.$ | FEB | | 1 4 7 | d. h. m. | FEB | 27 2 59 | 27 16 30 |
| 14 19 33 | MAR | 2 11 49 | § 2 13 44 | 14 13 0 | Mar | 28 15 43 | 29 5 28 |
| | | 1 0 33 | (31 22 36) | | APRIL | 27 4 27 | 27 15 33 |
| | APRILO | 15 18 55 | 16 6 39 | | MAY . | 26 17 11 | 26 23 28 |
| | | (30 13 17 | 30 7 29 | | June . | 25 5 55 | 25 6 17 |
| | MAY . | 80 2 1 | 29 17 14 | | JULY. | 24 18 39 | 24 13 7 |
| | June . | 28 14 45 | 28 4 42 | | 0 | (813 1 | 8 15 5 |
| | July . | 28 3 29 | 27 18 24 | | Aug | 23 7 23 | 22 21 1 |
| | Aug | 26 16 13 | 26 10 15 | | SEPT | 21 20 7 | 21 6 58 |
| | SEPT | 25 4 57 | 25 3 32 | | Ост | 21 8 51 | 20 19 37 |
| | 0 | (9 23 19 | 9 15 14 | | Nov | 19 21 35 | 19 11 11 |
| | Oct | 24 17 41 | 24 21 14 | | DEC | 19 10 19 | 19 5 8 |
| | Nov | 23 6 25 | 23 14 13 | | | | |
| [| DEC | 22 19 9 | 23 5 86 | 1143. | JAN | 17 23 3 | 18 0 16 |
| | | | | C. | 0 | S 1 17 25 | 1 19 39 |
| 1140. | JAN | 21 7 53 | 21 18 51 | | FEB | 16 11 47 | 16 19 4 |
| G.F. | FEB | 19 20 37 | 20 5 55 | 14 18 49 | MAR | 18 0 31 | 18 12 2 |
| 14 1 22 | MAR | 20 9 21 | 20 15 7 | | APRIL | 16 13 15 | 17 2 16 |
| | 0 | ſ 4 8 43 | 487 | | MAY . | 16 1 59 | 16 13 37 |
| | APRIL | 18 22 5 | 18 23 2 | | JUNE . | 14 14 43 | 14 22 37 |
| | MAY . | 18 10 49 | 18 6 29 | | JULY . | γ14 3 27 | 14 6 15 |
| | JUNE . | 16 23 33 | 16 14 32 | | 0 | 28 21 49 | 28 15 33 |
| | July. | 16 12 17 | 16 0 18 | ŀ | Aug | 12 16 11 | 12 13 33 |
| | Aug | 15 1 1 | 14 12 27 | | SEPT | 11 4 55 | 10 21 38 |
| | SEPT | (18 18 45 | 13 3 31 | | Oct | 10 17 39 | 10 7 14 |
| | 0 | 12: 8 7 | 28 7 31 | | Nov | 9 6 23 | 8 18 54 |
| | Oct | 18 2 29 | 12 21 8 | | DEC | 3 19 7 | 8 8 55 |
| | Nov | 11 15 18 | 11 15 59 | 1144. | JAN | 7 7 52 | 7 1 4 |
| | DEC | 11 8 57 | 11 10 47 | B.A. | O AN. | 22 2 14 | 1 |
| 1141. | JAN | 9 16 42 | 10 4 2 | | FEB. | C | 5 18 37 |
| E. | l | | 8 18 44 | 11 0 88 | MAR. | 6 9 20 | 6 12 32 |
| | FEB | 8 5 26 9 18 10 | 10 6 84 | 11 0 90 | | 1 | |
| 14 7 11 | | | | | APRIL | | |
| | APRIL | 8 6 54 | 8 15 54 | | MAY | Į. | 1 |
| 1 | MAY. | 7 19 88 | | | JUNE . | 1 | . 1 |
| | JUNE. | 6 8 22 | | 1 | July | 1.3 | |
| 1 | JULY. | 5 21 6 | 1 | | 0 | 17 6 38 | i . |
| | Aug. | 4 9 50 | 1 | 11 | Aug. | $\begin{cases} 1 & 1 & 0 \\ 0 & 19 & 4 \end{cases}$ | |
| 1 | SEPT. | 2 22 84 | | 11 | | (30 13 4 | i |
| | Oct | 2 11 18 | 1501 17 01 | | SEPT. | 1 | |
| | Nov. | 1 0 2 | • | 11 | Oct. | . 28 15 19 | |
| | i | (50 12 10 | | 11 | Nov. | i i | |
| | DEC | 30 1 30 | 80 5 55 | i 13 | DEC. | . 26 16 40 | 0 26 8 30 |

| | | | JERUSALLA | | | with the second section of the second | |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|---------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. (O Full Ecl.) |
| A.D., 1145. | | d. h. m. | d. h. m. | A.D. 1148. | | d. h. m. | d. h. m. |
| G. | JAN | 25 5 25 | 24 22 29 | D.C. | JAN | 22 20 85 | 23 8 18 |
| March. | FEB | 23 18 9 | 23 13 44 | March. | FEB | 21 9 19 | 21 18 17 |
| d. h. m. 14 6 26 | MAR. | 25 6 53 | 25 5 48 | 13 23 53 | MAR. | 21 22 3 | 21 22 16 |
| | APRIL | 23 19 37 | 23 22 6 | 10 20 00 | APRIL | 20 10 47 | 20 6 48 |
| | MAY. | 23 8 21 | 23 13 45 | 1 | MAY. | 19 23 31 | 19 15 48 |
| | 0 | (7 2 43 | 6 21 56 | l | JUNE . | 18 12 15 | 18 2 9 |
| | JUNE . | 21 21 5 | 22 4 9 | | July . | 18 0 59 | 17 11 30 |
| | JULY. | 21 9 49 | 21 16 58 | ĺ | Aug. | 16 18 48 | 16 5 30 |
| | Aug. | 19 22 33 | 20 4 18 | 1 | _ | 15 2 27 | |
| 1 | SEPT. | 18 11 17 | | İ | SEPT. | 1 . | 14 22 21 |
| | | | 18 14 45 | | Ocr | 14 15 11 | 14 16 12 |
| | Ocr | 18 0 1 | 18 0 55 | | Nov | 18 8 55 | 18 9 55 |
| | Nov | 16 12 45 | 16 11 19 | | DEC | 12 16 89 | 18 2 22 |
| | 0 | 1 7 7 | 1 8 2 | | | | |
| | DEC | (16 1 29 | 15 22 10 | 1149. | JAN | 11 5 23 | 11 16 49 |
| 1146. | JAN | 14 14 13 | 14 9 31 | в. | FEB | 9 18 7 | 10 4 54 |
| F. | FEB | 13 2 57 | 12 21 25 | 14 5 42 | MAR | (11 6 51 | 11 11 51 |
| 14 12 15 | MAR. | 14 15 41 | 14 10 5 | | 0 | L26 1 13 | 26 8 10 |
| | APRIL | 13 4 25 | 12 23 44 | | APRIL | 9 19 85 | 9 28 8 |
| | MAY . | (12 17 9 | 12 14 21 | | MAY. | 9 8 19 | 9 8 81 |
| | 0 | 27 11 31 | 27 15 8 | | JUNE . | 7 21 8 | 7 14 1 |
| | JUNE . | 11 5 58 | 11 5 38 | | JULY . | 7 9 47 | 6 22 42 |
| | JULY. | 10 18 37 | 10 20 58 | ' | Aug | 5 22 81 | 5 9 88 |
| | Aug | 9 7 21 | 9 11 45 | | SEPT | (4 11 15 | 8 23 15 |
| | SEPT | 7 20 5 | 8 1 36 | | 0 | 19 5 87 | 19 6 57 |
| | Ocr | 7 8 49 | 7 14 26 | V | Oct | 8 28 59 | 8 15 45 |
| | Nov. | (5 21 33 | 6 2 28 | | Nov. | 2 12 43 | 2 10 18 |
| | 0 | 20 15 55 | 20 7 32 | | 21011 | (2 1 27 | 2 5 80 |
| | DEC | 5 10 17 | 5 13 54 | | DEC | 81 14 11 | 81 28 45 |
| | | | | | | (01 11 11 | 01 20 40 |
| 1147. E. | JAN. | 3 23 2 | 4 0 50 | 1150 | | 00 0 == | 00 45 50 |
| | Гев. | 2 11 46 | 2 11 19 | 1150. | JAN | 80 2 55 | 80 15 50 |
| 14 18 4 | MAR. | 4 0 30 | 3 21 31 | Δ. | FEB | 28 15 40 | (1 5 8 |
| | APRIL | 2 13 14 | 2 7 51 | 44 44 81 | 0 | $(15 \ 10 \ 2)$ | 15 5 15 |
| | | 2 1 58 | 1 18 59 | 11 11 81 | MAR | (80 4 24 | 80 15 27 |
| | MAYO | 316 20 20 | 17 6 55 | | APRIL | 28 17 8 | 28 28 40 |
| | 5_ | (31 14 42 | 31 7 28 | | MAY . | 28 5 52 | 28 6 87 |
| | JUNE. | 30 3 26 | 29 21 35 | | JUNE . | 26 18 86 | 26 18 21 |
| | JULY. | 29 16 10 | 29 13 6 | | July. | 26 7 20 | 25 20 59 |
| | Aug | 28 4 54 | 28 5 20 | | Aug | 21 20 4 | 24 6 86 |
| | SEPT | 26 17 38 | 26 21 29 | | 0 | 5 8 14 26 | 8 20 1 |
| | Oct | 26 6 22 | 26 12 55 | | SEPT | 28 8 48 | 22 19 0 |
| | 0 | 510 0 44 | 9 12 34 | | Ocr | 22 21 82 | 22 10 80 |
| | Nov | 24 19 6 | 25 3 9 | | Nov | 21 10 16 | 21 4 89 |
| | DEC | 24 7 50 | | i | DEC | 00 00 01 | 01 0 0 |
| | DEC. | 24 1 DU | 24 15 57 | | DEC. | 20 23 0 | 21 0 9 |

| March. Fro. 18 6 29 18 12 41 March. 14 15 15 19 19 21 C. O. 16 25 15 19 19 11 17 19 Mag. 19 18 18 29 18 18 10 46 Mar. 16 4 42 16 12 16 17 18 18 18 18 18 18 18 | Mean Vernal Equinax, | Month. | Moon. Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|----------------------------|-----------|---------------------|------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| March. 1 1 1 1 1 1 1 1 1 | 1151. | , | d. h. m. | d. h. m. | 1154. | | d. h. m. | d. h. m. |
| March. 14 17 19 Mag. 14 18 18 20 18 18 14 10 46 Mar. 16 4 22 16 1 2 | 44. | JAX. | 19 11 45 | 19 19 21 | c. | 0 | f 1 8 32 | 1 19 26 |
| 14 17 19 19 18 18 20 18 18 10 46 48 47 61 14 17 63 48 48 48 48 48 48 48 4 | Market | Fro | 18 0 29 | 18 12 41 | Monale | JAN | 16 2 54 | 15 19 88 |
| 11 | | 44 1 | 4 14 51 | 4 14 11 | | FEB | 14 15 88 | 14 9 56 |
| May 17 14 41 17 23 26 May 14 5 50 14 9 1 | 11 17 19 | MARCI | 19 13 13 | 20 8 13 | | MAR | 16 4 22 | 16 1 22 |
| June 16 8 25 16 6 40 June (12 18 84 18 0 27 12 56 27 5 5 14 4 5 5 15 18 23 3 July 12 7 18 12 14 14 5 18 20 43 July 12 7 18 12 14 14 15 10 20 2 11 2 2 2 2 1 1 7 1 June 10 20 2 11 2 2 2 2 1 1 7 1 July 10 10 0 0 0 0 0 0 0 | , | A 12811. | 14 1 67 | 18 11 36 | | APRIL | 14 17 6 | 14 17 22 |
| Hart 15 16 9 15 18 23 | | MAY | 17 14 41 | 17 23 26 | | MAY . | 14 5 50 | 14 9 19 |
| Acc. 111 4 53 13 20 43 | | Jine | 16 8 25 | 16 6 40 | | June . | £12 18 84 | 18 0 25 |
| 1162 128 13 13 14 15 16 17 18 18 18 18 18 18 18 | | Jur. | 15 16 9 | 15 13 23 | | 0 | 127 12 56 | 27 5 15 |
| Sept. 12 17 87 12 5 40 Sept. 9 8 46 9 18 8 | | Ara . | 111 4 53 | 18/20/48 | | July. | 12 7 18 | 12 14 10 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------|----------------|
| A.D. 1169. | | d. h. m. | d. h. m. | A.D. 1172. | | d. h. m. | d. h. m. |
| Е. | JAN | 29 19 27 | 30 3 12 | B.A. | 0 | (12 16 16 | 13 8 45 |
| | FEB | 28 8 12 | 28 20 25 | | JAN | 27 10 88 | 27 8 59 |
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| 1 | APRIL | 28 9 40 | 28 22 0 | | APRIL | 25 0 50 | 25 0 9 |
| | MAY. | 27 22 24 | 28 6 57 | | MAY . | 24 18 81 | 24 15 49 |
| | JUNE . | 26 11 8 | 26 14 5 | | JUNE . | 23 2 18 | 28 6 57 |
| | JULY. | 25 23 52 | 25 20 58 | | 0 | 7 20 40 | 7 12 89 |
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| 1 | Nov | 21 2 48 | 20 15 29 | | Nov | 17 17 58 | 17 19 18 |
| | DEC | 20 15 32 | 20 8 11 | | DEC | 17 6 42 | 17 6 8 |
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| 1170. | JAN | 19 4 17 | 19 2 31 | 1173. | JAN | {15 19 26 | 15 17 11 |
| D. | FEB | 17 17 1 | 17 21 12 | G. | FEB | 14 8 11 | 14 4 8 |
| 14 7 47 | MAR. | 19 5 45 | 19 14 48 | 14 1 14 | MAR | 15 20 55 | 15 15 28 |
| | APRIL | 17 18 29 | 18 6 11 | 11 1 11 | APRIL | 14 9 89 | 14 8 42 |
| | MAY. | 17 7 13 | 17 18 54 | | MAY. | 18 22 28 | 18 17 6 |
| | JUNE . | 15 19 57 | 16 5 7 | | June . | (12 11 7 | 12 7 40 |
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| ŀ | Aug | 13 21 25 | 13 21 26 | | July . | 11 28 51 | 11 28 4 |
| | SEPT | 12 10 9 | 12 5 33 | | Aug | 10 12 85 | 10 14 89 |
| | Ост | 11 22 53 | 11 14 48 | | SEPT | 9 1 19 | 9 5 47 |
| 1 | Nov. | 10 11 37 | 10 1 42 | | Ост | 8 14 8 | 8 20 2 |
| | DEC | 10 0 21 | 9 14 32 | | Nov | 7 2 47 | 7 9 17 |
| | | | | | DEC | 6 15 81 | 6 21 82 |
| 1171. | JAN | 8 13 5 | 8 5 17 | 1174. | Jan | 5 4 15 | 5 8 50 |
| C. | 0 | 23 7 27 | 23 18 29 | F. | FEB. | 8 16 59 | 8 19 15 |
| | FEB | 7 1 49 | 6 21 34 | 14 7 3 | MAR. | 5 5 48 | 5 4 56 |
| 14 13 36 | MAR | 8 14 33 | 8 14 41 | 14 0 | APRIL | 3 18 27 | 8 14 21 |
| | APRIL | 7 3 17 | 7 7 42 | | MAY. | (8 7 11 | 8 0 12 |
| | MAY . | 6 16 1 | 6 23 39 | | 0 | 18 1 88 | 18 18 8 |
| | JUNE . | 5 4 45 | 5 13 48 | | JUNE . | 1 19 55 | 1 11 20 |
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| | Ост | 1 7 41 | 1 7 3 | | Ocr | 27 11 85 | 27 17 15 |
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| Mean Vornal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Fuli Ecl.) | True New Moon. (O Full Ecl.) |
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| A.D. 1175. | | d. h. m. | d. h. m. | A.D. 1178. | | d. h. m. | d. h. m. |
| March. | JAN | 24 1 48 | 24 10 57 | А. | JAN | 20 16 58 | 20 21 44 |
| d. h. m. | Feb | 22 14 32 | 22 21 15 | March. | FEB | 19 5 42 | 19 15 57 |
| 14 12 51 | MAR | 24 3 16 | 24 6 7 | d. h. m. | 0 | [604 | 5 21 2 |
| | APRIL | 22 16 0 | 22 14 8 | 14 6 18 | MAR | 120 18 26 | 21 7 41 |
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| | MAY. | 22 4 44 | 21 22 10 | | MAY . | 18 19 54 | 19 6 18 |
| | June. | 20 17 28 | 20 7 17 | | JUNE. | 17 8 38 | 17 14 14 |
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| | Aug | 18 18 56 | 18 8 9 | | Aug | ∫15 10 6 | 15 4 30 |
| | SEPT | 17 7 40 | 17 0 24 | | 0 | 130 4 28 | 30 4 55 |
| | Ocr | {16 20 24 | 16 18 27 | | SEPT | 13 22 50 | 13 12 55 |
| | | \31 14 46 | 31 8 27 | | Oct | 13 11 34 | 12 23 20 |
| | Nov | 15 9 8 | 15 13 4 | | Nov | 12 0 18 | 11 12 15 |
| | DEC | 14 21 52 | 15 6 49 | | DEC | 11 13 2 | 11 3 43 |
| 1176. | JAN | 10 10 07 | 19 00 96 | 1179. | JAN | 10 1 46 | 9 21 14 |
| D.C. | FEB | 13 10 37 | 13 22 36 | G. | FEB | (8 14 30 | 8 15 43 |
| 13 18 40 | MAR. | 11 23 21 12 12 5 | 12 11 49 12 22 28 | | 0 | 23 8 52 | 23 12 48 |
| 20 10 40 | APRIL | 12 12 5 | 11 7 3 | 14 12 7 | MAR | 10 3 14 | 10 9 50 |
| 1 | O | $\begin{cases} 11 & 0.45 \\ 25 & 19.11 \end{cases}$ | 25 21 41 | | APRIL | 8 15 58 | 9 2 19 |
| | MAY. | 10 13 33 | 10 14 18 | | MAY . | 8 4 42 | 8 16 21 |
| | June . | 9 2 17 | 8 21 17 | | JUNE . | 6 17 26 | 7 3 47 |
| | July. | 8 15 1 | 8 5 2 | | JULY . | 6 6 10 | 6 13 9 |
| | Aug. | 7 8 45 | 6 14 89 | | Aug | ſ 4 18 54 | 4 21 21 |
| | SEPT. | 5 16 29 | 5 3 1 | | 0 | 19 13 16 | 19 5 5 |
| | Oct. | (5 5 13 | 4 18 25 | | SEPT | 3 7 38 | 3 5 23 |
| | 0 | 19 28 85 | 20 0 29 | | Oct | 2 20 22 | 2 14 11 |
| | Nov. | 8 17 57 | 3 12 27 | | Nov | f 1 9 6 | 1 0 20 |
| | DEC | 8 6 41 | 3 7 51 | | | 180 21 50 | 30 12 13 |
| | | | | | DEC | 30 10 34 | 30 1 55 |
| 1177. | JAN | ∫ 1 19 25 | 2 2 59 | 1180. | JAN | 28 23 18 | 28 17 17 |
| B. | | (81 8 9 | 31 20 19 | F.E. | 0 | ∫12 17 40 | 13 4 28 |
| | FEB | | | | FEB | 27 12 2 | 27 9 49 |
| 14 0 29 | MAR. | ∫ 1 20 53 | 2 10 50 | 13 17 56 | MAR | 28 0 47 | 28 2 48 |
| | | 181 9 87 | 81 22 20 | | APRIL | 26 13 31 | 26 19 15 |
| | APRIL | 29 22 21 | 80 7 14 | | MAY . | 26 2 15 | 26 10 18 |
| | MAY. | 29 11 5 | 29 14 28 | | June . | 24 14 59 | 24 23 29 |
| | June. | 27 23 49 | 27 21 5 | | JULY . | 24 3 43 | 24 10 52 |
| | July. | 27 12 33 | 27 4 14 | | 0 | § 7 22 5 | |
| | Aug. | 26 1 17 | 25 12 54 | | Aug | (22 16 27 | 1 |
| | SEPT. | 24 14 1 | 24 0 5 | | SEPT | 21 5 11 | |
| | Oct | 24 2 45 | 23 14 16 | | Oct | 20 17 55 | 1 |
| | Nov. | 22 15 29 | 22 7 18 | | Nov. | 19 6 39 | 1 |
| | DEC | 22 4 18 | 22 2 18 | | DEC | 18 19 23 | 18 13 42 |
| | | 1 | 1 | JI . | 1 | J. | <u> </u> |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|--|---|---|---|--|---|---|
| A.D. 1181. p. March. d. h. m. 13 23 41 | Jan Feb Mar | d. h. m. 17 8 8 15 20 52 17 9 36 | d. h. m. 17 1 47 15 14 49 17 4 50 | A.D. 1184. A.G. March. d. h. m. 13 17 11 | JAN Feb Mar | d. h. m. 14 23 18 13 12 2 14 0 46 12 13 80 | d. h. m. 15 9 80 18 20 85 14 5 57 12 14 5 |
| | APRIL MAY . JUNE . JULY . AUG SEPT | 15 22 20 15 11 4 13 23 48 13 12 32 12 1 16 10 14 0 10 2 44 | 15 19 48 15 11 17 14 2 44 13 17 28 12 7 6 10 19 34 10 7 9 | | APRIL MAY . JUNE . JULY . AUG SEPT | 12 13 50 12 2 14 10 14 58 10 3 42 8 16 26 7 5 10 6 17 54 | 11 21 49 10 6 8 9 16 4 8 4 26 6 19 81 6 18 0 |
| 1182. | Oct Nov Dec O | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 8 18 16 8 5 13 22 23 58 6 16 3 | 1185. | Nov DEC | 5 6 88 4 19 22 3 8 6 | 5 7 41 5 2 12 8 19 11 |
| 14 5 33 | Jan Feb Mar April May . June . | 5 5 40 6 18 24 5 7 8 4 19 52 (3 8 36 | 5 2 48 6 13 42 5 1 10 4 13 41 3 3 30 | 13 23 0 | FEB MAR APRIL O MAY . | 1 20 50 3 9 84 { 1 22 18 { 16 16 40 } 1 11 2 { 30 28 46 | 2 9 42 8 21 81 2 6 55 16 16 59 1 14 85 80 21 28 |
| | O JULY . AUG SEPT OCT Nov O DEC | \[\begin{array}{c c c c c c c c c c c c c c c c c c c | 18 5 59 2 18 31 1 10 12 31 1 51 29 16 54 29 6 57 27 19 54 11 28 46 27 7 45 | | JUNE . JULY . AUG SEPT O OCT Nov DEC | 29 12 80 29 1 14 27 18 58 26 2 42 {10 21 4 25 15 26 24 4 10 23 16 54 | 29 4 38 28 18 12 27 0 9 25 14 8 10 28 38 25 7 2 24 2 1 28 21 32 |
| 1183. B. 14 11 22 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | 25 14 29 24 3 18 25 15 57 24 4 41 23 17 25 5 7 11 47 22 6 9 21 18 53 20 7 37 18 20 21 18 9 5 16 21 49 5 1 16 11 16 10 33 | 25 18 33 24 4 23 25 18 38 23 22 55 23 9 4 7 21 21 21 20 58 21 10 46 20 2 34 18 19 35 18 12 51 17 5 22 1 5 35 16 20 23 | 1186. E. 14 449 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov DEC | 22 5 89 20 18 28 22 7 7 { 6 1 29 { 20 19 51 20 8 85 18 21 19 18 10 8 16 22 47 { 15 11 31 { 80 5 58 15 0 15 18 12 59 18 1 48 | 22 15 58 21 7 56 22 20 50 5 19 59 21 6 51 20 18 45 18 21 81 18 4 17 16 12 9 14 23 5 30 11 21 14 10 48 18 2 81 12 20 40 |

| Mean Vernul Equinox. | Month. | Mean New Moon. (O Full Ect.) (| True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|---|--|---|---|--|--|--|
| A.D. 1187. D. March. d. h. m. 14 10 87 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV | d. h. m. 11 14 28 10 3 12 {11 15 56 26 10 18 10 4 40 9 17 24 8 6 8 7 18 52 6 7 86 { 4 20 20 10 14 42 4 9 4 2 21 48 { 2 10 82 81 28 16 | d. h. m. 11 16 1 10 10 56 12 8 55 26 6 8 10 18 5 10 5 17 8 14 6 7 21 81 6 4 38 4 12 80 19 16 47 8 21 50 2 9 41 1 28 54 81 16 28 | A.D. 1190. G. March. d. h. m. 14 4 4 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV | d. h. m. { 8 5 37 22 23 59 6 18 21 8 7 6 6 19 50 6 8 34 4 21 18 { 4 10 2 19 4 24 2 22 46 1 11 30 { 1 0 14 80 12 58 29 1 42 28 14 26 { 12 8 48 | d. h. m. 8 0 0 23 11 56 6 12 20 8 1 35 6 15 48 6 6 50 4 22 17 4 13 30 18 20 6 3 3 53 1 17 12 1 5 29 30 17 3 29 4 13 28 15 7 12 13 39 |
| 1188. c.n. 13 16 26 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 00 0 4 | 30 10 20 29 4 87 20 21 54 28 18 8 28 1 51 26 12 14 25 21 8 24 5 16 22 18 47 21 28 21 20 10 26 19 28 11 | 1191. F. 14 9 58 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov DEC | \begin{array}{c c c c c c c c c c c c c c c c c c c | 27 1 48 25 12 21 26 28 11 25 10 51 24 23 47 28 14 7 8 13 6 28 5 35 21 21 82 20 18 15 20 4 7 18 17 51 18 6 24 |
| 1189. A. 18 22 15 | JAN. O FMB. MAR. APRIL MAY JUNE O AUG. SEPT. OCT. NOV. DEC. | 17 11 1 16 28 45 15 12 29 15 1 18 29 19 85 18 18 57 12 2 41 11 15 25 10 4 9 | 29 6 50 13 19 44 12 5 41 11 15 80 10 1 39 | 1192. டித் 13 15 42 | JAN FEB MAR APRIL O . JUNE . JULY . AUG SEPT. OCT. Nov. O DEC. | 11 16 28 10 5 7 8 17 51 8 6 85 6 19 19 21 13 43 | 28 20 10 11 18 10 11 6 56 9 21 51 8 14 81 8 8 2 7 1 18 1 21 8 11 |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) |
|----------------------|--------|-------------------|----------------|----------------|--------|----------------|------------------------------|
| Equinox. | | (O Fatt Fer') | (O Full Ecl.) | Equinox. | | (6 2 444 2647) | |
| A.D. 1193. | | d. h. m. | d. h. m. | A.D. 1196. | | d. h. m. | d. h. m. |
| С. | JAN | 4 20 48 | 5 7 32 | G.F. | JAN | 2 11 57 | 2 10 16 |
| d. $h.$ $m.$ | FEB | 3 9 32 | 3 19 35 | March. | FEB | 1 0 41 | 1 5 28 |
| d. h. m. 13 21 30 | MAR | 4 22 16 | 5 5 36 | d, h , m . | | 1 18 25 | 1 28 29 |
| | APRIL | 3 11 0 | 3 14 6 | 13 14 57 | MAR. O | 316 7 47 | 16 5 7 |
| 1 | MAY . | (2 23 44 | 2 21 44 | | | (31 2 9 | 81 15 1 |
| | 0 | 17 18 6 | 18 3 10 | | APRIL | 29 14 53 | 80 8 88 |
| | June. | 1 12 28 | (1 5 28 | | MAY. | 29 8 87 | 29 13 32 |
| | _ | (1 1 12 | 30 14 23 | | JUNE. | 27 16 21 | 27 21 86 |
| | JULY. | 30 13 56 | 30 1 26 | | July. | 27 5 5 | 27 4 50 |
| | Aug | 29 2 40 | 28 15 14 | | Aug | 25 17 49 | 25 12 21 |
| | SEPT. | 27 15 24 | 27 7 44 | | 0 | (9 12 11 | 9 12 1 |
| | Ocr | 27 4 8 | 27 2 7 | | SEPT | 24 6 33 | 28 21 6 |
| | 0 | (10 22 30 | 10 17 15 | | Oct. | 23 19 17 | 28 7 44 |
| | Nov. | 25 16 52 | 25 21 4 | | Nov. | 22 8 1 | 21 20 48 |
| | Dec | 25 5 36 | 25 15 5 | | DEC. | 21 20 45 | 21 12 8 |
| | | | -0 10 0 | | | | |
| 4404 | т | 00 10 00 | 04 0 70 | 1197. | JAN | 20 9 30 | 20 5 14 |
| 1194. в. | JAN | 28 18 20 | 24 6 56 | E. | FEB | 18 22 14 | 18 23 18 |
| | FEB | 22 7 4 | 22 20 4 | | 0 | ∫ 5 16 86 | 5 21 12 |
| 14 3 19 | MAR. | 23 19 48 | 24 6 29 | 13 20 46 | Mar | (20 10 58 | 20 17 1 |
| | APRIL | 22 8 32 | 22 14 36 | | APRIL | 18 23 42 | 19 9 16 |
| | 0 | 7 2 54 | 7 4 17 | | MAY. | 18 12 26 | 18 23 14 |
| | MAY . | 21 21 16 | 21 21 50 | | JUNE. | 17 1 10 | 17 10 48 |
| | JUNE. | 20 10 0 | 20 4 39 | | July. | 16 13 54 | 16 20 27 |
| | JULY. | 19 22 44 | 19 12 22 | | Aυσ | 15 2 88 | 15 5 1 |
| | Aug | 18 11 28 | 17 22 3 | | 0 | 29 21 0 | 29 12 5 |
| | SEPT | 17 0 12 | 16 10 32 | | Sept | 18 15 22 | 18 18 29 |
| | Ост | {16 12 56 | 16 2 6 | | Ocr | 13 4 6 | 12 22 40 |
| | 0 | (31 7 18 | 31 9 7 | | Nov | 11 16 50 | 11 9 4 |
| | Nov. | 15 1 40 | 14 20 17 | | Dec | 11 5 84 | 10 20 58 |
| | DEC | 14 14 24 | 14 15 47 | 1198. | JAN | 9 18 19 | 9 10 27 |
| | | | | D. | FEB. | (878 | 8 1 20 |
| 1195. | JAN | 13 3 9 | 13 11 0 | | 0 | 28 1 25 | 23 12 51 |
| Α. | Fев | 11 15 53 | 12 4 16 | 14 2 35 | Mar | 9 19 47 | 9 17 18 |
| 14 9 8 | MAR., | 13 4 37 | 13 18 40 | | APRIL | 8 8 81 | 8 9 45 |
| | APRIL | 11 17 21 | 12 5 59 | | MAY. | 7 21 15 | 8 1 58 |
| 1 | MAY . | 11 6 5 | 11 14 45 | | June. | 6 9 59 | 6 16 54 |
| | JUNE. | 9 18 49 | 9 21 56 | | JULY. | 5 22 48 | 6 6 18 |
| | JULY. | 9 7 33 | 9 4 33 | | Aug. | (4 11 27 | 4 18 6 |
| | Aug | 7 20 17 | 7 11 51 | | 0 | 19 5 49 | 18 16 18 |
| | SEPT | 6 9 1 | 5 20 43 | | SEPT | 8 0 11 | 3 4 41 |
| | Ост | 5 21 45 | 5 8 5 | | Oct | 2 12 55 | 2 14 44 |
| | Nov | 4 10 29 | 3 22 23 | | | (1 1 39 | 1 0 52 |
| | Dec | 3 23 13 | 3 15 24 | | Nov | 30 14 28 | 80 11 27 |
| | | I | | | DEC. | 80 8 7 | |
| | | | | | | 00 0 7 | 29 22 85 |

| Mean Vornal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|--|--|--|---|
| A.D. 1199. c. March. d. h. m. 14 8 23 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 28 15 51 27 4 85 28 17 19 27 6 8 26 18 47 25 7 81 24 20 15 28 8 59 21 21 43 21 10 27 19 28 11 19 11 55 | d. h. m. 28 10 22 26 22 50 28 12 14 27 2 88 26 17 47 25 9 11 25 0 10 28 14 17 22 3 21 21 15 32 20 3 6 19 14 11 | A.D. 1202. F. March. d. h. m. 14 1 50 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 25 7 1 23 19 45 25 8 29 23 21 13 23 9 57 21 22 41 21 11 25 20 0 9 18 12 58 18 1 37 16 14 21 16 3 5 | d. h. m. 25 18 6 24 5 0 25 14 2 23 21 49 23 5 14 21 18 19 20 28 7 19 11 32 18 2 50 17 20 32 16 15 33 16 10 20 |
| 1200. B.A. 18 14 12 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | \$ 6 18 18 0 40 16 18 24 17 2 8 15 14 52 15 8 36 18 16 20 28 10 42 18 5 4 11 17 48 10 6 82 9 19 16 8 8 0 7 20 41 22 15 6 | 3 7 54 18 0 55 16 11 18 16 21 40 15 8 34 14 20 34 18 10 4 28 13 26 18 1 1 11 16 56 10 9 5 10 0 48 8 15 20 8 4 40 22 7 57 | 1203. E. 14 7 89 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O Nov DEC | 14 15 50 18 4 84 14 17 18 {18 6 2 28 0 24 12 18 46 11 7 80 10 20 14 9 8 58 7 21 42 { 7 10 26 22 4 48 5 23 10 5 11 54 | 15 3 28 13 17 58 15 5 36 13 14 45 27 23 44 12 22 12 11 4 56 10 12 2 8 20 38 7 7 41 6 21 49 22 8 3 5 14 52 5 9 57 |
| 1201. (i. 13 20 1 | JAN. FER. MAR. APRIL MAY JUNE O JULY AUG. SEPT. OCT. NOV. O DEC. | 4 28 41 4 12 25 { 8 1 9 {17 19 81 2 18 58 { 1 2 87 { 80 15 21 29 4 5 28 16 49 27 5 88 { 11 28 58 | $ \begin{cases} 2 & 8 & 80 \\ 81 & 17 & 29 \\ 80 & 9 & 80 \\ 29 & 2 & 56 \\ 28 & 20 & 41 \\ 27 & 18 & 41 \\ 11 & 14 & 18 \end{cases} $ | | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O Oct Nov. DEC. | 28 17 47 27 6 31 25 19 15 10 13 33 25 7 59 | 1 14 22 30 22 11 29 4 59 28 11 53 26 19 56 25 6 5 7 10 19 41 9 24 18 57 3 23 10 41 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|----------------------------|-------------|------------------------------|------------------------------|----------------------------|---------|--|----------------|
| A.D. 1205. | | d. h. m. | d. h. m. | A.D. 1208. | | d. h. m. | d. h. m. |
| B. | JAN | 21 22 11 | 21 23 50 | F.E. | JAN | 19 13 21 | 19 8 45 |
| d. h. m. | FEB | 20 10 55 | 20 18 29 | 35 3 | 0 | (3 7 43 | 3 20 31 |
| 13 19 16 | MAR | 21 23 39 | 22 11 15 | March. d , h , m . | FEB | 18 2 5 | 17 20 36 |
| | 0 | 5 18 1 | 5 13 49 | 13 12 43 | MAR | 18 14 49 | 18 9 14 |
| į | APRIL | 20 12 23 | 21 1 27 | | APRIL | 17 3 33 | 16 22 50 |
| | MAY . | 20 1 7 | 20 12 29 | | MAY. | 16 16 17 | 16 18 26 |
| | JUNE. | 18 13 51 | 18 21 23 | | June. | 15 5 1 | 15 4 42 |
| | JULY. | 18 2 35 | 18 4 59 | | JULY. | (14 17 45 | 14 20 8 |
| | Aug | 16 15 19 | 16 12 23 | | 0 | 29 12 7 | 29 3 37 |
| | SEPT | (15 4 3 | 14 20 35 | | Aug | 13 6 29 | 18 10 51 |
| | 0 | 29 22 25 | 30 0 11 | | SEPT | 11 19 13 | 12 0 44 |
| | Oct | 14 16 47 | 14 6 22 | | Ocr | 11 7 57 | 11 13 38 |
| | Nov | 13 5 31 | 12 18 13 | | Nov. | 9 20 41 9 9 25 | 10 1 48 |
| | DEC | 12 18 15 | 12 8 21 | | DEC | 9 9 25 | 9 18 9 |
| 1000 | _ | | 44 | 1209. | JAN | (722 9 | 8 0 4 |
| 1206. A. | JAN | 11 7 0 | 11 0 32 | D. | 0 | $\begin{cases} 22 & 16 & 31 \end{cases}$ | 22 21 80 |
| 1 | FEB. | 9'19 44 | 9 18 4 | | FEB. | 6 10 58 | 6 10 26 |
| 14 1 5 | MAR. | 11 8 28 | 11 11 55 | 13 18 32 | MAR. | 7 23 38 | 7 20 38 |
| | APRIL MAY . | 9 21 12 9 9 56 | 10 4 50 9 19 57 | | APRIL | 6 12 22 | 6 6 50 |
| | JUNE. | 7 22 40 | 8 8 45 | | MAY . | 6 1 6 | 5 17 56 |
| | JULY. | 7 11 24 | 7 19 23 | | June. | 4 13 50 | 4 6 28 |
| | Aug | 6 0 8 | 6 4 34 | | July. | (4 2 84 | 8 20 89 |
| | SEPT. | 4 12 52 | 4 13 12 | | 0 | (18 20 56 | 18 20 88 |
| | Oct | 4 1 36 | 3 22 9 | | Aug | 2 15 18 | 2 12 14 |
| | Nov | 2 14 20 | 2 8 4 | | SEPT | 5142 | 1 4 88 |
| | D | (2 3 4 | 1 19 15 | | ~ · · · | (80 16 46 | 30 20 48 |
| | DEC | (31 15 48 | 31 7 50 | | Oct | 30 5 80 | 80 12 17 |
| | | | | | Nov | 28 18 14 | 29 2 80 |
| 1207. | Jan | 30 4 32 | 29 21 49 | | Dec | 28 6 58 | 28 15 15 |
| G. | 0 | (13 22 54 | 14 11 22 | 1210. | JAN. | 26 19 42 | 27 2 28 |
| | FEB | 28 17 16 | 28 13 1 | c. | FEB. | 25 8 26 | 25 12 19 |
| 14 6 54 | MAR | 30 6 0 | 30 5 2 | 14 0 21 | MAR. | 26 21 10 | 26 21 10 |
| | APRIL | 28 18 44 | 28 21 13 | | APRIL | 25 9 54 | 25 5 87 |
| | MAY. | 28 7 28 | 28 12 49 | | MAY. | 24 22 38 | 24 14 85 |
| | June. | 26 20 12 | 27 3 8 | | JUNE . | 28 11 22 | 28 1 2 |
| | July. | 26 8 56 | 26 15 54 | | JULY . | 28 0 6 | 22 13 40 |
| | . 0 | §10 3 18 | 9 14 6 | | A.ug. | 21 12 50 | 21 4 41 |
| | Aug | (24 21 40 | 25 3 16 | | SEPT | 20 1 34 | 19 21 41 |
| | SEPT. | 23 10 24 | 23 13 46 | | Ocr | 19 14 18 | 19 15 89 |
| | Oct Nov | 22 23 8 | 23 0 3 | | Nov | 18 3 2 | 18 9 21 |
| | DEC. | 21 11 52 | 21 10 32 | 1 | 0 | (2 21 24 | 2 11 58 |
| | JEU | 21 0 36 | 20 21 24 | | DEC. | 17 15 46 | 18 1 48 |
| | | 1 | | | | ľ | Ī |

| A.D. 1211. 1. 1. 1. 1. 1. 1. 1. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (C Full Ecl.) |
|--|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| 1. 1. 1. 1. 1. 1. 1. 1. | 1211. B. | Jan | | 1 | 1214. E. | Jan | d. h. m. | d. h. m. |
| Mar. 16 5 59 16 13 49 18 23 35 Mar. 12 21 9 13 6 51 Mar. 14 18 48 14 21 57 May 14 5 17 O 20 1 1 49 29 9 48 May 12 20 11 12 12 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 10 22 37 11 10 46 Juny 11 10 40 | | FEB | 14 17 14 | 15 4 2 | | | | 1 |
| APRIL 14 18 48 14 21 57 MAY (14 7 27 14 5 17 | 14 6 9 | MAR | 16 5 59 | 16 13 49 | | | | |
| May 14 7 27 14 5 17 29 9 48 3 3 11 12 14 14 14 14 14 15 15 | | APRIL | 14 18 43 | 14 21 57 | | | ₹ | |
| O | | MAY. | (14 7 27 | 14 5 17 | | | | |
| June 12 20 11 12 12 46 July 12 8 55 11 21 32 Aug. 10 21 39 10 8 38 Sept. 9 10 28 8 22 27 Oct. 8 23 7 8 15 10 Nov. {7 11 51 7 9 52 O | | 0 | [29 1 49] | 29 9 48 | | | | |
| July 12 8 55 11 21 32 Aug. 10 21 39 10 8 38 Sept. 9 10 28 8 22 27 Oct. 8 28 7 8 15 10 Nov. 6 7 11 51 7 9 52 O 22 6 13 22 2 8 Dec. 7 0 35 7 5 5 1212. A.G. Fee. 4 2 4 4 15 11 18 11 58 MAR. 4 14 48 5 4 10 Aprill 8 8 82 3 14 22 MAY (2 16 16 2 22 26 O (17 10 38) 17 10 50 Juns 20 6 28 20 19 48 Aug. 28 10 12 28 5 36 Sept. 27 7 56 26 18 14 Oct. 27 7 56 26 18 14 Oct. 22 1 2 2 8 24 28 46 1213. Fee. 21 28 36 22 12 4 Dec. 21 22 8 24 28 46 1213. Jan. 28 10 52 23 18 54 Fee. 3 24 22 18 Aprill 22 1 4 22 18 Aprill 22 1 4 22 18 Aprill 22 1 4 22 18 Aprill 30 7 26 Sept. 20 10 15 52 Sept. 20 10 55 20 19 55 Oct. 5 14 17 5 5 5 25 Nov. 4 8 1 3 816 18 Dec. 8 15 45 3 5 17 Sept. 6 1 83 5 20 22 24 Sept. 7 12 49 7 12 29 Sept. 8 15 16 18 Dec. 8 15 14 17 17 15 5 25 Nov. 4 8 1 1 38 16 18 Dec. 8 2 15 16 14 Nov. 14 18 12 14 6 85 | | JUNE. | 12 20 11 | 12 12 46 | | | | = • |
| Aug 10 21 39 10 8 83 Sept 9 10 28 8 22 27 Oct 8 28 7 8 15 10 Nov 7 11 51 7 9 52 22 6 13 22 2 8 Dec 7 0 35 7 5 5 Dec 7 0 35 7 5 5 Dec 7 0 35 7 5 5 Dec 7 0 35 7 5 5 Dec 7 0 35 7 5 5 Dec 7 0 35 7 5 5 Dec 7 0 35 7 5 5 Dec 10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | JULY. | 12 8 55 | 11 21 32 | | | | |
| SEPT. 0 10 28 8 22 27 OCT. 8 28 7 8 15 10 NOV. 6 7 11 51 7 9 52 O 22 6 13 22 2 8 DEC. 7 0 85 7 5 5 1212. A.G. Fer. 4 2 4 4 15 11 B 11 58 MAR. 4 14 48 5 4 10 APRIL 8 8 82 3 14 22 MAY (2 16 16 2 22 26) O (17 10 88 17 10 50) JUNE 1 90 6 28 29 19 48 AUG. 28 19 12 28 5 36 SEPT. 27 7 56 26 18 14 OCT. 26 20 40 26 9 57 O (10 15 2 10 17 58) NOV. 26 10 15 2 20 17 58 NOV. 26 20 40 26 9 57 O (10 15 2 10 17 58) NOV. 22 18 18 22 26 11 B 17 47 MAR. 28 12 20 24 2 18 APRIL DEC. 21 28 86 22 12 4 B 18 17 47 MAR. 28 12 20 24 2 18 APRIL 22 1 4 22 18 29 MAY 21 18 48 21 22 10 JUNE 20 2 82 20 52 21 JULY 19 15 16 10 12 26 AUG. 16 44 16 44 0 OCT. 16 5 28 15 16 14 NOV. 14 18 12 14 6 85 | | Aug | 10 21 39 | 1 | | | | |
| OCT 8 28 7 8 15 10 Nov 28 12 2 8 Nov 28 19 19 28 5 36 Sept 27 7 56 26 18 14 Oct 26 20 40 26 0 57 Oct 26 10 22 26 11 4 Oct 26 20 40 26 0 57 Oct 26 10 22 26 12 4 Oct 26 20 24 2 18 Nov 21 22 8 24 28 46 Per 21 28 86 22 12 4 Nov 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 20 May . 21 18 48 21 22 10 June . 20 2 32 20 521 June . 20 2 32 20 521 June . 20 2 32 20 521 June . 20 2 32 20 521 June . 20 2 32 20 521 June . 20 2 32 20 521 June . 20 2 32 20 521 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 20 2 32 20 5 21 June . 16 16 44 16 44 00 Oct 16 5 28 15 16 14 Nov . 14 18 12 14 6 35 | | SEPT. | | | | | | |
| Nov { 7 11 51 7 9 52 22 6 13 DEC 7 0 35 7 5 5 5 CCT | | | | | | | ₹ | |
| 1212. Jan. 5 18 20 5 23 18 1215. Jan. 2 2 4 80 1 20 24 8 1 1 1 58 Mar. 4 14 48 5 4 10 April. 30 17 44 30 12 4 July 30 6 28 29 19 48 Aug. 2 26 20 40 2 6 20 5 21 July 1 21 2 2 8 24 23 46 July 2 21 2 8 2 1 2 1 2 2 1 2 1 3 18 17 47 Mar. 2 3 12 20 2 4 2 18 April. 2 2 2 1 4 22 18 April. 2 2 2 1 4 22 18 April. 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 | | | 1 | | | | 1 | |
| Dec. 7 0 35 7 5 5 Dec. 3 15 45 3 5 17 1212. Jan. 5 18 20 5 23 18 Feb. 4 2 4 4 15 11 18 11 58 Mar. 4 14 48 5 4 10 April 38 8 82 8 14 22 Max 6 2 16 16 2 22 26 O 17 10 88 17 10 50 June 7 10 15 10 10 15 10 10 10 15 10 10 10 15 12 10 11 | | | 12. | - 1 | | | | |
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| June. 20 2 82 20 5 21 July. 19 15 16 19 12 6 Aug. 18 4 0 17 19 88 Sept. 16 16 44 16 4 40 Oct. 16 5 28 15 16 14 Nov. 14 18 12 14 6 35 | | APRIL | 22 1 4 | 22 13 29 | | APRIL | | 18 16 33 |
| July . 19 15 16 19 12 6 Aug 18 4 0 17 19 38 Sept 16 16 44 16 4 40 Oct 16 5 28 15 16 14 Nov 14 18 12 14 6 35 July . 16 6 26 16 13 8 Aug 16 6 26 16 13 8 Aug 0 (14 19 10 15 1 24 29 13 32 28 23 41 Oct 12 20 38 12 28 8 | | MAY . | 21 18 48 | 21 22 10 | | MAY . | 18 4 58 | 18 8 24 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-------------------------------|--------|------------------------------------|------------------------------------|---------------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1217. A. March. | Jan | d. h. m. 9 10 51 | d. h. m. 9 7 26 | A.D. 1220. E.D. March. | JAN | d. h. m. | d. h. m. |
| d, h , m . | FEB | 7 23 35 | 7 18 49 | d. h. m. | FEB | 5 14 45 | 6 2 37 |
| 13 17 2 | MAR | 9 12 19 | 9 6 44 | 13 10 28 | MAR | 6 3 29 | 6 13 18 |
| | APRIL | 8 1 3 | 7 19 32 | | APRIL | 4 16 13 | 4 22 1 |
| | MAY . | 7 13 47 | 7 9 21 | | MAY. | 4 4 57 | 4 5 28 |
| | June . | 6 2 31 | 6 0 15 | | June. | 2 17 41 | 2 12 37 |
| | JULY. | 5 15 15 | 5 15 39 | | T | $\int 2 625$ | 1 20 32 |
| | Aug | 4 3 59 | 4 6 57 | | Jury. | lg1 19 9 | 81 6 18 |
| | SEPT | 2 16 43 | 2 21 35 | | Aug | 80 7 58 | 29 18 47 |
| | | (2 5 27 | 2 11 16 | | SEPT | 28 20 37 | 28 10 14 |
| | Oct | \\\ 31 18 11 | (101 | | Oct | 28 9 21 | 28 4 18 |
| | Nov | 30 6 55 | 30 11 57 | | Nov. | 26 22 5 | 26 28 29 |
| | DEC | 29 19 39 | 29 23 8 | | DEC | 26 10 49 | 26 18 28 |
| | DEC | 20 20 00 | 20 20 0 | | 2020. | | |
| | 0 | (13 14 2 | 13 15 49 | | | A 0 1 | |
| 1218. | JAN | 28 8 24 | 28 9 41 | 1221. | JAN | 24 28 84 | 25 11 40 |
| G. | FEB | 26 21 8 | 26 19 41 | c. | FEB | 23 12 18 | 21 2 5 |
| 18 22 51 | MAR. | 28 9 52 | 28 5 32 | 13 16 17 | MAR | 25 1 2 | 25 13 81 |
| 10 22 01 | APRIL | 26 22 36 | 26 15 53 | | APRIL | 23 13 46 | 23 22 27 |
| | MAY. | 26 11 20 | 26 3 25 | | MAY. | 28 2 80 | 28 5 48 |
| | June . | 25 0 4 | 24 16 38 | | June. | 21 15 14 | 21 12 21 |
| | | 9 18 26 | 9 20 53 | | July. | 21 8 58 | 20 19 28 |
| | July. | 24 12 48 | 24 7 36 | | Aug. | 19 16 42 | 19 4 10 |
| 1 | Aug. | 23 1 32 | 22 23 48 | | SEPT. | 18 5 26 | 17 15 24 |
| | SEPT. | 21 14 16 | 21 16 26 | 1 | Ocr | 17 18 10 | 17 5 89 |
| | | 21 14 10 | 21 10 20 | | 0 | (1 12 32 | 1 16 40 |
| | Nov. | 19 15 44 | | | Nov. | 16 6 54 | 15 22 49 |
| | | 1 | 19 23 48 | | Dec. | 15 19 88 | 15 17 57 |
| | DEC | 19 4 28 | 19 13 27 | | DEC | 10 10 00 | 10 11 01 |
| | 0 | ſ 2 22 50 | 2 16 7 | | | | |
| 1219. | JAN. | 17 17 12 | 18 1 25 | 1222. | JAN | 14 8 22 | 14 13 27 |
| F. | FEB. | 16 5 56 | 16 11 50 | в. | FEB | 12 21 6 | 18 7 42 |
| 14 4 40 | MAR. | 17 18 40 | 17 20 55 | 13 22 6 | MAR. | 14 9 50 | 14 28 22 |
| 1 1 10 | APRIL | 16 7 24 | 16 5 16 | | APRIL | (12 22 84 | 18 11 59 |
| | MAY . | 15 20 8 | 15 13 39 | | 0 | 27 16 56 | 27 10 20 |
| 1 | JUNE . | (14 8 52 | 13 23 5 | | MAY. | 12 11 18 | 12 21 47 |
| | O. | 29 3 14 | 29 11 39 | | JUNE. | 11 0 2 | 11 5 85 |
| | JULY. | 13 21 36 | 13 10 29 | | JULY. | 10 12 46 | 10 12 28 |
| | Aug. | 12 10 20 | 12 0 20 | | Aug. | 9 1 30 | 8 19 82 |
| | SEPT. | 10 23 4 | 10 16 32 | | SEPT. | 7 14 14 | 7 8 50 |
| | Oct. | 10 11 48 | 10 10 32 | | Oct. | 7 2 58 | 6 14 12 |
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| | DEC. | 8 13 16 | 9 4 37 8 21 59 | | Nov | 5 15 42 | 5 8 18 |
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| | | <u> </u> | d'a | II. | J | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|----------|--|-----------------------------------|----------------------------|--------|--|------------------------------------|
| A.D. 1223. | | d. h. m. | d. h. m. | A.D. 1226. | | d. h. m. | d. h. m. |
| March. | JAN | 3 17 11 | 3 12 46 | D, | JAN | 29 21 5 | 29 17 24 |
| d. $h.$ $m.$ | FEB | 2 5 55 | 2 7 35 | | 0 | (13 15 27 | 14 3 57 |
| 14 8 55 | MAR | 3 18 39 | 4 1 55 | March. $d. h. m.$ | FEB | 128 9 49 | 28 4 45 |
| | APRIL | [2 7 23 | 2 18 27 | 13 21 21 | MAR | 29 22 33 | 29 16 47 |
| | 0 | 17 1 45 | 16 21 29 | | APRIL | 28 11 17 | 28 5 48 |
| | MAY . | [1 20 7 | 2 8 22 | | MAY . | 28 0 1 | 27 20 0 |
| | | \text{\gamma} 8 51 | 81 19 85 | | JUNE . | 26 12 45 | 26 11 8 |
| | June . | 29 21 35 | 30 4 40 | | JULY. | 26 1 29 | 26 2 40 |
| | JULY. | 29 10 19 | 29 12 33 | | 0 | (9 19 51 | 9 11 15 |
| | Aug | 27 23 3 | 27 20 18 | | Aug | 124 14 13 | 24 17 55 |
| | SEPT | 26 11 47 | 26 4 51 | | SEPT | 23 2 57 | 23 8 24 |
| | 0 | [11 6 9 | 11 7 44 | | Oct | 22 15 41 | 22 21 55 |
| | Ocr | \26 0 B1 | 25 14 53 | | Nov | 21 4 25 | 21 10 27 |
| | Nov | 24 13 15 | 24 2 51 | | DEC | 20 17 9 | 20 22 6 |
| | DEC | 24 1 59 | 23 16 50 | | | | |
| 1224. | _ | | | 1227. | JAN | 19 5 53 | 19 8 55 |
| G.F. | JAN | 22 14 43 | 22 8 39 | C. | 0 | ∫ 8 0 15 | 3 5 15 |
| | FEB | 21 3 27 | 21 1 41 | | FEB | 17 18 37 | 17 19 0 |
| 18 9 41 | MAR | 21 16 11 | 21 19 2 | 14 3 10 | Mar | 19 7 21 | 19 4 37 |
| | APRIL | 20 4 55 | 20 11 39 | | APRIL | 17 20 5 | 17 14 20 |
| | MAY. | 19 17 80 | 20 2 40 | | MAY . | 17 8 49 | 17 0 58 |
| | June. | 18 6 28 | 18 15 35 | | June. | 15 21 33 | 15 13 8 |
| | July. | 17 19 7 | 18 2 33 | | JULY. | ∫15 10 17 | 15 8 12 |
| - 11 | Aug | 16 7 51 | 16 12 10 | | 0 | 130 4 39 | 30 4 12 |
| | SEPT | 14 20 85 | 14 21 16 | | Aug | 13 23 1 | 13 18 57 |
| | Ocr | 14 9 19 | 14 6 40 | | SEPT | 12 11 45 | 12 11 40 |
| | Nov | 12 22 3 | 12 16 51 | | Ocr | 12 0 29 | 12 4 29 |
| | DEC | 12 10 47 | 12 4 6 | | Nov | 10 13 13 | 10 20 31 |
| 1225. | . | 10 00 03 | 10 10 00 | 1 | DEC | 10 1 57 | 10 11 8 |
| 1225. E. | JAN. | 10 28 82 | 10 16 29 | 1228. | T | 0.14.40 | 000 |
| | FEB | \{ 9 12 16 | 9 6 0 | B.A. | JAN | 8 14 42 | 9 0 2 |
| 10 15 00 | Men | 11 1 0 | 24 19 87 | 18 8 59 | FEB | 7 3 26 7 16 10 | 7 11 8 7 20 41 |
| 18 15 83 | MAR. | | 9 12 2 | 10 0 09 | MAR. | | |
| | APRIL | 9 18 44 9 2 28 | | | APRIL | 6 4 54 5 17 38 | 6 5 5 5 5 13 8 |
| | MAY . | | | | MAY . | | 3 21 45 |
| | JUNE . | 7 15 12 | 7 19 18 | | JUNE . | | 3 7 58 |
| | July. | 7 8 56 | 7 9 49 | | JULY. | 3 19 6 | |
| | Aug. | $\left\{ \begin{array}{cccc} 5 & 16 & 40 \\ 20 & 11 & 2 \end{array} \right.$ | 5 22 59 19 21 32 | | Aug. | | |
| | 0 | | | | Grow | | 1 |
| | SEPT. | 4 5 21 | 4 10 55 | | SEPT. | | |
| | Oct | 8 18 8 | 8 21 59 | | Ocr | 28 10 46 | |
| | Nov | 2 6 52 | 2 8 44 | | Nov. | (13 5 8 | |
| | Disc | 1 19 80 | Į. | | DEC | $\begin{cases} 13 & 3 & 3 \\ 27 & 23 & 30 \end{cases}$ | |
| | | 181 8 20 | 81 6 20 | | Dec. | . 21 20 50 | 20 10 10 |
| | 1 | L | 1 | II . | 1 | 1 | 1 |

| A.D. 1229. G. March. d. h. m. 18 14 48 APRIL 125 2 27 ADS. 12 15 11 24 12 46 AUS. 12 15 11 24 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 12 15 12 14 12 46 AUS. 13 15 14 15 11 14 15 14 15 14 14 15 | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| March. | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| March. d. l., m., 13 14 48 Feb 25 0 59 25 12 24 d. l., m., 18 14 48 Mar 26 13 43 26 21 53 48 and 13 8 14 48 Mar 26 13 43 26 21 53 48 and 13 8 14 and 14 12 41 24 62 d. l., m., 12 41 24 12 d. 6 | | T | 96 19 15 | 97 0 97 | | TAN. | 24 3 25 | 24 2 4 |
| Mar. 26 13 48 26 21 53 18 14 18 | | | | | March. | | | |
| APRIL 25 2 27 25 5 48 MAY . 24 15 11 24 12 46 O | | | 1 | | | | | |
| May 24 15 11 24 12 46 | 13 14 48 | | | | 13 8 14 | | | |
| MAY 21 6 21 21 17 48 14 2 16 18 2 16 | | | | | | | 1 1 | |
| June 23 8 55 22 20 4 July 19 7 49 19 12 24 Aug. 21 5 28 20 15 49 Aug. 17 20 33 17 20 16 Sept. 19 6 51 18 22 48 Oct. 19 6 51 18 22 48 Oct. 17 8 19 17 18 9 Nov. 17 19 35 17 17 42 Oct. 17 8 19 17 18 9 1230. Jan. 15 21 8 16 7 25 B. Feb. 14 9 47 14 28 16 May 18 28 59 14 5 59 Oct. 18 28 16 12 28 Oct. 18 28 16 Oct. 18 28 16 Oct. 18 28 16 Oct. 18 28 16 Oct. Oct. 18 28 29 Oct. | | MAY. | | | | | | |
| July 22 16 39 22 4 45 Aug. 21 5 28 20 15 49 Sept. 19 18 7 19 5 52 Oct. 19 6 51 18 22 48 Nov. 17 19 35 17 17 42 Oct. 17 8 19 17 18 9 1230. F. Feb. 14 9 47 14 28 16 MAR. 15 22 31 16 12 6 April 14 11 15 14 22 6 MAR. 15 22 11 16 12 6 April 14 11 15 14 22 6 MAY. 12 12 12 14 12 14 11 15 14 22 6 MAY. 12 12 12 12 11 19 30 Aug. 10 14 11 10 8 21 Sept. 9 2 55 8 13 18 Oct. 8 15 39 8 2 5 Nov. 10 14 11 10 8 21 Sept. 9 2 55 8 13 18 Oct. 8 15 39 8 2 5 Nov. 17 4 23 6 17 54 Out. 8 15 39 6 52 5 7 48 Langle 14 2 26 Nov. 10 14 11 10 8 21 Sept. 9 2 55 8 13 18 Out. 8 15 39 8 2 5 Nov. 10 14 11 10 8 21 Sept. 9 2 55 8 13 18 Out. 8 15 39 8 2 5 Nov. 17 4 23 6 17 54 Out. 8 15 39 8 2 5 Nov. 17 19 35 17 17 42 April 11 2 25 17 11 11 Aug. 10 15 9 10 22 44 Aug. 10 15 9 10 22 44 Aug. 10 15 9 10 22 44 Aug. 10 15 9 10 22 46 Aug. 10 14 11 10 8 21 Sept. 9 2 55 8 13 18 Out. 8 15 39 8 2 5 Nov. 8 15 39 8 2 5 Nov. 8 15 39 8 2 5 Nov. 17 10 10 10 10 10 10 10 10 10 10 10 10 10 | | _ | 1 | | | | | |
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| Sept. 19 18 7 19 5 52 | | JULY. | | - | | | | |
| OCT 19 6 51 18 22 48 Nov 17 19 35 17 17 42 O | | Aug | | 1 | | | | |
| Nov. 17 19 35 17 17 42 O { 2 13 57 2 11 4 } DEC. 17 8 19 17 18 9 1230. F. FEE. 14 9 47 14 23 16 18 10 57 10 20 58 APRIL 14 11 15 14 22 6 MAY. 12 12 12 13 12 14 12 14 25 16 MAY. 12 12 12 13 12 12 13 12 14 12 14 25 16 MAY. 12 12 12 13 12 12 13 12 14 14 11 15 14 22 6 MAY. 12 12 12 13 12 12 13 12 14 13 15 MAY. 12 12 12 11 19 30 AUG. 12 12 12 13 12 12 14 11 11 10 10 13 11 14 11 15 MAY. 12 12 12 11 19 30 AUG. 13 14 14 11 15 MAY. 14 15 MAY. 15 15 18 18 18 MAY. 15 16 17 7 6 12 13 12 12 12 12 12 13 12 13 12 14 14 14 14 15 MAY. 15 16 MAY. 16 16 12 18 MAY. 17 18 19 MAY. 18 18 18 18 MAY. 18 18 18 18 MAY. 19 18 18 18 18 MAY. 19 18 18 18 18 18 MAY. 19 18 18 18 18 MAY. 19 18 18 18 18 18 MAY. 19 18 18 18 18 18 18 18 18 18 18 18 18 18 | | SEPT | 19 18 7 | 19 5 52 | | Sept | | |
| 1230. | 1 | Oct | 19 6 51 | 18 22 48 | | 0 | 1 8 89 | |
| Dec. 17 8 19 17 18 9 1233. Jan. 12 12 18 12 4 48 12 30 18 20 37 Jan. 15 21 3 16 7 25 18 14 9 47 14 28 16 18 14 3 Jan. 12 12 18 12 14 2 18 20 37 Jan. 15 22 31 16 12 6 Jan. 16 12 6 Jan. 17 18 20 Jan. 18 20 37 Jan. 16 12 6 Jan. 18 20 37 Jan. 16 12 6 Jan. 18 20 37 Jan. 16 12 6 Jan. 18 20 37 Jan. 16 12 26 Jan. 18 20 37 Jan. 19 20 24 Jan. 19 20 24 Jan. 19 20 24 Jan. 19 30 22 44 Jan. 19 30 22 44 Jan. 19 30 24 Jan. 19 20 24 Jan. 19 30 24 Jan. 19 20 24 Jan. 19 20 24 Jan. 19 20 24 Jan. 19 20 24 Jan. 19 30 24 Jan. 19 20 2 | 1 1 | Nov | 17 19 35 | 17 17 42 | | Ocr | 15 22 1 | 15 18 55 |
| 1230. Jan 15 21 8 16 7 25 B. Feb 14 9 47 14 28 16 April 14 11 15 14 22 6 May . [18 28 59 14 5 59] O | | 0 | ∫ 2 13 57 | 2 11 4 | | Nov | 14 10 45 | 14 0 57 |
| 1230. JAN 15 21 8 16 7 25 B. Feb 11 0 57 10 20 58 Feb 14 9 47 14 28 16 18 14 8 MAR (12 18 41 12 14 2 18 18 14 11 15 14 22 6 MAY . (13 28 59 14 5 59 0 28 18 21 28 17 19 JUNE . 12 12 48 12 12 45 JULY . 12 1 2 7 11 19 30 AUG 10 14 11 10 3 21 Sept 9 2 55 8 18 18 8 0ct 8 15 39 8 2 5 Nov (7 4 28 6 17 54 OE) APRIL AARL . 6 17 7 6 12 13 12 24 5 JULY . 12 12 24 5 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 13 14 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 45 JULY . 12 12 2 2 2 42 JULY . 12 12 2 45 JULY . 12 12 2 2 2 5 31 JULY . 12 12 2 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 2 5 31 JULY . 12 12 32 3 6 SEPT 28 0 28 27 12 49 OCT 27 13 12 27 0 32 Nov 26 1 56 25 14 56 DEC 25 14 40 25 7 48 JULY . 22 17 6 22 18 32 | | DEC | 17 8 19 | 17 13 9 | | Dec | 13 23 29 | 18 18 54 |
| F. Feb. 14 9 47 14 23 16 13 14 8 Mar. 12 18 41 12 14 2 18 18 20 37 Mar. 15 22 31 16 12 6 April 14 11 15 14 22 6 May 14 5 59 O 28 18 21 28 17 19 June 12 12 12 12 12 12 19 30 June 12 12 12 12 13 12 12 14 June 13 15 14 11 10 3 21 Sept. 9 2 55 8 18 18 Oct. 8 15 39 8 2 5 Nov. 6 17 7 6 12 13 Jan. 6 17 7 6 12 13 Jan. 7 6 12 13 June 13 20 4 4 9 47 May 13 20 4 4 9 47 May 13 20 4 4 9 47 May 13 20 4 4 9 47 May 13 20 30 30 19 43 Aug. 29 11 44 29 3 26 Sept. 28 0 28 27 12 49 Oct. 27 13 12 27 0 32 Nov. 26 1 56 25 14 56 Dec. 25 14 40 25 7 48 June 12 24 4 22 47 40 Nov. 22 17 6 22 18 32 | 1 | | | | 1233. | JAN | 12 12 18 | 12 4 48 |
| 18 20 37 | 1230. | JAN | 15 21 3 | 16 7 25 | в. | FEB | 11 0 57 | 10 20 58 |
| APRIL 14 11 15 14 22 6 MAY . [18 28 59 14 5 59] O 28 18 21 28 17 19 JUNE . 12 12 48 12 12 45 JULY . 12 1 27 11 19 30 AUG 10 14 11 10 3 21 SEPT 9 2 55 8 18 18 OCT 8 15 39 8 2 5 Nov [7 4 28 6 17 54] O 21 22 45 DEC 6 17 7 6 12 18 E. Feb 3 18 36 4 2 48 HARL . 5 7 20 5 19 42 APRIL . 3 20 4 4 9 47 MAY . 3 8 48 3 20 52 JUNE . 12 13 32 2 5 31 JULY . 3 8 8 48 3 20 52 JUNE . 12 13 32 2 5 31 JULY . 8 16 37 0 0 47 AUG 7 5 21 7 11 11 SEPT [5 18 5 5 20 41 SEPT [5 18 5 5 20 41 SEPT [5 18 5 5 20 41 SEPT [5 18 5 5 20 41 SEPT [5 18 5 5 5 20 41 SEPT [5 18 5 5 5 20 41 SEPT [5 18 5 5 5 20 41 SEPT [5 18 5 5 20 41 SEPT [5 18 5 5 5 20 41 SEPT [5 18 5 5 5 20 41 SEPT [5 18 5 5 5 20 41 SEPT [5 18 5 5 5 20 41 SEPT [5 18 5 5 20 41 SEPT | F. | FEB | 14 9 47 | 14 23 16 | 13 14 3 | MAR | 112 18 41 | 12 14 2 |
| APRIL | 13 20 37 | MAR | 15 22 31 | 16 12 6 | | 0 | 27 8 8 | 27 18 29 |
| O 28 18 21 28 17 19 June 12 12 48 12 12 45 July 12 1 27 11 19 30 Aug. 10 14 11 10 3 21 Sept. 9 2 55 8 18 18 Oct. 8 15 39 8 2 5 Nov. 5 4 28 6 17 54 O 21 22 45 22 2 42 Dec. 6 17 7 6 12 13 Oct. 3 18 36 4 2 48 Aug. 3 20 4 4 9 47 May 3 8 48 3 20 52 June 1 21 32 2 5 31 July 1 21 32 30 28 Oct. 2 3 2 3 2 6 Sept. 2 3 2 3 2 6 Sept. 2 3 2 3 2 6 Sept. 2 3 2 3 2 6 Sept. 2 3 2 3 2 6 Sept. 2 3 2 3 2 6 Sept. 2 3 2 4 4 29 3 2 6 Sept. 2 3 2 5 14 40 25 7 48 Sept. 2 2 17 6 22 18 32 Sept. 2 2 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 18 32 Sept. 2 2 18 32 Sept. 2 2 18 32 Sept. 2 2 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 17 6 22 18 32 Sept. 2 2 18 6 | | | 14 11 15 | 14 22 6 | | APRIL | 11 2 25 | 11 6 56 |
| O | 1 | MAY . | (13 23 59 | 14 5 59 | | MAY. | 10 15 9 | 10 22 44 |
| JUNE . 12 12 48 12 12 45 JULY . 12 1 27 11 19 30 AUG 10 14 11 10 3 21 SEPT 9 2 55 8 13 18 OCT 8 15 39 8 2 5 Nov { 7 4 28 6 17 54 O 21 22 45 22 2 42 DEC 6 17 7 6 12 13 1231. E. SEB 3 18 36 4 2 48 MAR 5 7 20 5 19 42 APRIL | 1 | 0 | 28 18 21 | 28 17 19 | | 1 | 9 8 58 | 9 12 46 |
| July 12 1 27 11 19 30 Aug. 10 14 11 10 3 21 5 EPT. 9 2 55 8 13 18 Oct. 8 15 39 8 2 5 Nov. 7 4 28 6 17 54 Oct. 6 17 7 6 12 13 Oct. 21 22 45 22 2 42 Dec. 6 17 7 6 12 13 Oct. 3 18 36 4 2 48 Aug. | | JUNE . | 12 12 43 | 12 12 45 | | July . | 8 16 87 | 9 0 47 |
| Aug 10 14 11 10 3 21 | 1 1 | JULY. | 12 1 27 | 11 19 30 | | | | 7 11 11 |
| Sept 9 2 55 8 13 18 Oct 8 15 39 8 2 5 Nov {7 4 23 6 17 54 Oct 6 17 7 6 12 13 Oct 6 17 7 8 17 8 17 8 17 8 17 8 17 8 17 8 | | | 10 14 11 | | | | | |
| OCT 8 15 39 8 2 5 Nov 7 4 28 6 17 54 OCT 5 6 49 5 6 6 Nov 21 22 45 22 2 42 DEC 6 17 7 6 12 13 DEC 6 17 7 6 12 13 DEC 3 18 36 4 2 48 APRIL 8 2 6 APRIL APRIL MAY . 3 8 48 3 20 52 JUNE . 1 21 32 2 5 31 AUG 20 11 44 29 3 26 Sept Sept 28 0 28 27 12 49 OCT 27 13 12 27 0 32 Nov 26 1 56 25 14 56 DEC 25 14 40 25 7 43 DEC 10 OCT 22 18 32 0 30 19 43 AUG 25 14 40 25 7 43 DEC 22 18 32 0 32 0 30 0 30 0 30 0 30 0 30 0 30 | | | 1 | | | | 14 | |
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| O DEC 21 22 45 22 2 42 DEC 3 8 17 8 2 47 | | | 1 | | | | | |
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| 1231. JAN 5 5 52 5 7 48 FEB 3 18 36 4 2 48 13 19 52 MAR 6 16 16 52 17 5 7 81 11 14 81 7 49 MAY . 3 8 48 3 20 52 JUNE . 1 21 32 2 5 31 JULY . 8 10 10 16 1 12 46 30 28 0 30 19 43 AUG 28 0 28 27 12 49 Oct 27 13 12 27 0 32 Nov 26 1 56 25 14 56 Dec 25 14 40 25 7 43 12 10 10 10 10 10 10 10 10 10 10 10 10 10 | | _ | | | | LDE(). | 9 0 14 | 0 44 184 |
| 1231. | | 220 | 0 2 | 0 12 10 | 1234. | TAN | [1 21 2 | 1 14 32 |
| E. FEB 3 18 36 4 2 48 14 2 26 MAR 5 7 20 5 19 42 APRIL 3 20 4 4 9 47 MAY . 3 8 48 3 20 52 JUNE . 1 21 32 2 5 31 JULY . { 1 10 16 1 12 46 80 28 0 30 19 48 AUG 29 11 44 29 3 26 SEPT 28 0 28 27 12 49 Oct 27 13 12 27 0 32 Nov 26 1 56 25 14 56 Dec 25 14 40 25 7 43 Ref. FEB 1 2 28 0 1 17 8 MAR. 1 2 2 80 1 17 8 MAR. 1 2 2 80 1 17 8 MAR. 2 9 12 40 29 28 58 29 28 16 MAY 29 12 42 29 14 54 JUNE . 28 1 26 28 5 50 JULY . 27 14 10 27 20 1 Aug 26 2 54 26 8 47 0 9 21 16 9 7 14 SEPT 26 1 56 25 14 56 Dec 25 14 40 25 7 43 | | - | 1 2 2 20 | | | OAM | 81 9 46 | 81 8 17 |
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| APRIL 3 20 4 4 9 47 MAY . 3 8 48 3 20 52 JUNE . 1 21 32 2 5 31 JULY . { 1 10 16 1 12 46 30 23 0 30 19 43} AUG 29 11 44 29 3 26 SEPT 28 0 28 27 12 49 Oct 27 13 12 27 0 32 Nov 26 1 56 25 14 56 Dec 25 14 40 25 7 43 | | | 1 | | | | (1 22 30 | 4 |
| MAY . 3 8 48 3 20 52 June . 1 21 32 2 5 31 July . { 1 10 16 1 12 46 30 23 0 30 19 43} Aug 29 11 44 29 3 26 Sept 28 0 28 27 12 49 Oct 27 13 12 27 0 32 Nov 26 1 56 25 14 56 Dec 25 14 40 25 7 43 MAY . 29 23 58 29 28 16 MAY . 29 12 42 29 14 54 June . 28 1 26 28 5 50 July . 27 14 10 27 20 1 Aug 26 2 54 26 8 47 O 9 21 16 9 7 14 Sept 0 9 21 16 9 7 14 Nov 26 25 14 40 25 7 43 Nov 22 17 6 22 18 32 | 14 2 26 | | | | 13 19 52 | Mar. O | 16 16 52 | 17 5 7 |
| June . 1 21 32 2 5 31 | | 1 | | | | | 81 11 14 | 81 7 49 |
| July . { 1 10 16 1 12 46 30 28 0 30 19 48 Aug 29 11 44 29 3 26 Sept 28 0 28 27 12 49 Oct 27 13 12 27 0 32 Nov 26 1 56 25 14 56 Dec 25 14 40 25 7 43 Nov 22 17 6 22 18 32 | | · | | 3 20 52 | | APRIL | 29 28 58 | 29 28 16 |
| July . \begin{pmatrix} 1 & 10 & 16 & 1 & 12 & 46 & 28 & 5 & 50 \\ 30 & 28 & 0 & 30 & 19 & 43 \\ Aug. & 29 & 11 & 44 & 29 & 3 & 26 \\ Sept. & 28 & 0 & 28 & 27 & 12 & 49 \\ Oct. & 27 & 13 & 12 & 27 & 0 & 32 \\ Nov. & 26 & 1 & 56 & 25 & 14 & 56 \\ Dec. & 25 & 14 & 40 & 25 & 7 & 43 \end{pmatrix} \tag{June . 28 & 1 & 26 & 28 & 5 & 50 \\ July . 27 & 14 & 10 & 27 & 20 & 1 \\ Aug 26 & 2 & 54 & 26 & 8 & 47 \\ Oct 24 & 15 & 38 & 24 & 20 & 82 \\ Oct 24 & 4 & 22 & 24 & 7 & 40 \\ Nov 22 & 17 & 6 & 22 & 18 & 32 \end{pmatrix} | | JUNE . | 1 | 2 5 31 | | | | |
| Aug 29 11 44 29 3 26 Sept 28 0 28 27 12 49 Oct 27 13 12 27 0 32 Nov 26 1 56 25 14 56 Dec 25 14 40 25 7 43 July . 27 14 10 27 20 1 Aug 26 2 54 26 8 47 O (9 21 16 9 7 14 24 15 38 24 20 32 Oct 24 4 22 24 7 40 Nov 22 17 6 22 18 32 | | Jury | 11 | 1 12 46 | | | | |
| Aug. 29 11 44 29 3 26 Sept. 28 0 28 27 12 49 Oct. 27 13 12 27 0 32 Nov. 26 1 56 25 14 56 Dec. 25 14 40 25 7 43 Aug. 26 2 54 26 8 47 O (9 21 16 9 7 14 Sept. 24 15 38 24 20 32 Oct. 24 4 22 24 7 40 Nov. 22 17 6 22 18 32 | 1 | JULI . | 130 23 0 | 30 19 43 | | L | | |
| SEPT. 28 0 28 27 12 49 Oct. 27 13 12 27 0 32 Nov. 26 1 56 25 14 56 DEC. 25 14 40 25 7 43 OCT. 28 0 28 27 12 49 OCT. 27 13 12 27 0 32 Nov. 26 1 56 25 14 56 DEC. 25 14 40 25 7 43 OCT. 24 4 22 24 7 40 Nov. 22 17 6 22 18 32 | | Aug | 29 11 44 | 29 3 26 | | | | |
| * Nov 26 1 56 25 14 56 DEC 25 14 40 25 7 48 SEPT 24 15 38 24 20 32 Nov 22 17 6 22 18 32 | 1 | SEPT | 28 0 28 | 27 12 49 | | | | |
| * Nov 26 1 56 25 14 56 DEC 25 14 40 25 7 48 OCT 24 4 22 24 7 40 Nov 22 17 6 22 18 82 | | Ост. | 27 13 12 | 27 0 32 | | | 1 3 | |
| Dec. 25 14 40 25 7 43 Nov. 22 17 6 22 18 82 | | Nov | 26 1 56 | 25 14 56 | | _ | | |
| | | Dec | 25 14 40 | 25 7 43 | | | | |
| , , , , , , , , , , , , , , , , , , , | | 1 | | | | DEC. | 22 5 50 | 22 18 82 22 5 28 |

| Mean Vernal Equinox. | Month. | Mean New Meon. (O Full Ecl.) (| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. |
|---|--|---|--|---------------------------------------|--|---|---|
| A.D. 1235. G. March. d. h. ni. 14 1 41 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG . SEPT OCT NOV DEC | d. h. m. 20 18 35 19 7 19 20 20 8 19 8 47 18 21 81 17 10 15 16 22 59 15 11 48 14 0 27 18 18 11 12 1 55 11 14 89 | d. h. m. 20 16 15 19 8 12 20 14 82 19 2 44 18 16 7 17 6 48 16 22 9 15 18 48 14 4 59 18 19 18 12 8 35 11 20 49 | A.D. 1238. c. March. d. h. m. 13 19 7 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | d. h. m. { 2 15 22 | d. h. n. 2 7 80 17 21 57 16 10 59 17 21 27 16 5 51 15 18 1 18 19 58 29 2 38 18 3 48 11 18 36 10 2 10 9 17 47 8 11 59 |
| 1236. F.E. 18 7 80 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov | 00 10 11 | 10 8 3 21 23 37 8 18 22 9 3 57 7 13 17 6 23 6 5 10 14 4 23 15 20 4 22 3 14 15 2 6 44 1 23 52 31 16 40 30 8 16 20 22 9 | 1239. B. 14 0 56 | DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | 8 5 48 6 18 38 5 7 17 6 20 1 5 8 45 4 21 29 8 10 18 2 22 57 1 11 41 81 0 25 29 18 9 29 1 58 12 20 15 27 14 37 27 8 21 | 8 7 27 7 2 33 5 19 48 7 10 1 5 21 17 5 6 1 8 13 10 2 19 48 1 8 0 30 11 52 28 23 15 28 13 89 13 1 20 27 6 51 27 1 54 |
| 1237. D. 18 18 19 | O JAN. FEB. MAR. APRIL MAY JUNE O JULY AUG. SEFT. OCT. NOV. DEC. | 28 2 24 26 15 8 26 8 52 21 16 36 { 9 10 58 24 5 20 22 18 4 21 6 48 20 19 82 19 8 16 | 28 10 9 26 20 18 28 5 1 26 12 56 25 20 57 24 6 7 3 9 18 49 28 17 24 22 7 18 4 22 7 18 4 20 28 45 4 20 17 56 6 19 12 36 | | JAN FEB MAR APRIL O MAY JUNB JULY AUG. SEFT. OCT. O NOV. DEC. | 24 17 34 23 6 18 8 0 40 22 19 2 21 7 46 20 20 30 19 9 14 | 23 5 5 21 12 56 20 20 0 19 3 20 17 11 55 16 22 31 1 11 58 3 15 11 37 |

| Mean Verual Equinox, | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl. |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|-----------------------------------|
| A.D. 1241. | | d. h. m. | d. h. m. | A.D. 1244. | | d. h. m. | d. h. m. |
| March. | JAN | 14 0 54 | 13 20 46 | C.B. | JAN | 11 16 4 | 11 15 16 |
| d. $h.$ $m.$ | FEB | 12 13 38 | 12 15 12 | March. | FEB | (10 4 48 | 10 1 57 |
| 13 12 34 | MAR | 14 2 22 | 14 9 11 | d. h. m. | 0 | 24 23 10 | 25 11 43 |
| 1 | APRIL | (12 15 6 | 13 1 28 | 13 6 0 | MAR | 10 17 32 | 10 12 47 |
| 1 | 0 | 27 9 28 | 27 5 2 | | APRIL | 9 6 16 | 9 0 11 |
| | MAY . | 12 3 50 | 12 15 20 | | MAY. | 8 19 0 | 8 12 42 |
| | June . | 10 16 34 | 11 2 38 | | June . | 7 7 44 | 7 2 32 |
| | JULY. | 10 5 18 | 10 11 56 | | JULY. | 6 20 28 | 6 17 36 |
| | Aug | 8 18 2 | 8 20 9 | | Aug | (5 9 12 | 5 9 21 |
| | SEPT | 7 6 46 | 7 4 18 | | 0 | 20 3 34 | 19 19 0 |
| | Oct | (61930 | 6 13 14 | | SEPT | 3 21 56 | 4 1 4 |
| | 0 | 21 13 52 | 21 15 24 | | Oct | 3 10 40 | 3 16 10 |
| | Nov | 5 8 14 | 4 23 32 | | Nov | 1 23 24 | 2 6 15 |
| | Dec | 4 20 58 | 4 11 33 | | 21011 | (1128 | 1 19 12 |
| | | | | | DEC | 31 0 52 | 31 7 0 |
| 1242. | T | 9 0 49 | 0 1 01 | | | (81 0 52 | JI 1 0 |
| E. | JAN Feb | 3 9 43 | 3 1 21 | 1245. | JAN | 29 13 36 | 29 17 42 |
| 13 18 23 | | 1 22 27 | 1 16 42 | Α. | 0 | (13 7 58 | 13 12 51 |
| 10 10 20 | MAR | 3 11 11 | 3 9 12 | | FEB | 28 2 21 | 28 3 26 |
| | APRIL | 1 23 55 | 2 2 3 | 13 11 49 | MAR | 29 15 5 | 29 12 34 |
| | MAY . | 1 12 39 | 1 18 22 | | APRIL | 28 8 49 | 27 21 47 |
| | T | (31 1 23 | 31 9 19 | | MAY . | 27 16 33 | 27 7 58 |
| | JUNE . | 29 14 7 | 29 22 25 | | June . | 26 5 17 | 25 19 51 |
| | July. | 29 2 51 | 29 46 | | JULY . | 25 18 1 | 25 9 51 |
| | Aug | 27 15 35 | 27 19 52 | | 0 | (9 12 23 | 9 11 54 |
| | SEPT | 26 4 19 | 26 5 29 | | Aug | 24 6 45 | 24 1 47 |
| | Oct | 25 17 3 | 25 15 17 | | SEPT. | 22 19 29 | 22 18 55 |
| | Nov. | 24 5 47 | 24 1 44 | | Oct | 22 8 13 | 22 10 55 |
| | DEC | 23 18 31 | 23 12 59 | | Nov. | 20 20 57 | 21 4 49 |
| | | | | | D | 20 20 31 | 20 19 46 |
| 1243. | JAN | 22 7 16 | 22 1 5 | | DEC | 70 9 4T | 20 18 40 |
| D. | FEB | 20 20 0 | 20 14 4 | 1246. | JAN | 18 22 26 | 19 8 45 |
| | 0 | 7 14 22 | 8 3 43 | G. | FEB | 17 11 10 | 17 19 41 |
| 14 0 12 | MAR | 22 8 44 | 22 4 2 | 13 17 38 | MAR | 18 23 54 | 19 4 58 |
| | APRIL | 20 21 28 | 20 18 56 | | APRIL | 17 12 38 | 17 12 54 |
| | MAY . | 20 10 12 | 20 10 22 | | MAY . | 17 1 22 | 16 20 34 |
| | June . | 18 22 56 | 19 1 47 | | June . | 15 14 6 | 15 4 55 |
| | JULY. | 18 11 40 | 18 16 31 | | July . | 15 2 50 | 14 14 58 |
| | Aug | § 17 0 24 | 17 6 9 | | Aug. | 13 15 34 | 13 3 31 |
| | 0 | (31 18 46 | 31 5 6 | | SEPT. | 12 4 18 | 11 18 50 |
| | SEPT | 15 13 8 | 15 18 39 | | Oct | 11 17 2 | 11 12 27 |
| | Oct | 15 1 52 | 15 6 19 | | Nov | 10 5 46 | 10 7 14 |
| | Nov | 13 14 36 | 13 17 30 | | DEC. | (9 18 30 | 10 1 45 |
| | Dec | 13 3 20 | 13 4 28 | | 0 | 24 12 52 | 24 5 25 |
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| the action of the second of the | | - Arrestor - Arts and arrestor - general - arrestor - arrest | - | | | | |
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| Mean Verteal Equinox, | Month. | Moan New Moon. (> Full Ect.) (c | True New Moon.) Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 1247. | Ar original design | d. h. m. | d. h. m. | A.D. 1250. | | d. h. m. | d. h. m. |
| Y. Y | JAN | 8 7 14 | 8 18 86 | в. | JAN | 4 22 21 | 4 15 53 |
| March, d. h. m. | FER | 6 19 58 | 7 8 58 | March. | FEB | 3 11 8 | 3 9 49 |
| 13 23 26 | MAR. | 8 8 42 | 8 20 36 | d. h. m. 18 16 58 | MAR. | 4 23 52 | 5 4 0 |
| | Arun | 6 21 26 | 7 5 47 | 20 20 00 | APRIL | (3 12 36 | 3 21 7 |
| | MAY . | 6 10 10 | 6 13 20 | | | 1) 1 | |
| | JUNE . | 4 22 51 | 4 20 11 | | 0 | 18 6 58 | 18 4 40 |
| | 73 | 19 17 16 | | | MAY. | 8 1 20 | 3 12 11 |
| | | 1 | 19 22 57 | | June. | 1 14 4 | 2 0 45 |
| | dian, | 4 11 88 | 4 8 28 | | July . | 1 2 48 | 1 11 4 |
| | Ara | 8 0 22 | 2 12 5 | | 0 0 4.12 | (80 15 82 | 30 19 52 |
| | W | 1 | 181 28 14 | 1 | Aug | 29 4 16 | 29 4 8 |
| | SEPT | 1 13 6 | 80 18 26 | | SEPT | 27 17 0 | 27 12 46 |
| | Ocr | (1 1 50) | | | 0 | (12 11 22 | 12 10 5 |
| | | 130 11 31 | 80 6 82 | | Ocr | 27 5 44 | 26 22 81 |
| | Nov. | 29 8 18 | 29 1 87 | | Nov | 25 18 28 | 25 9 42 |
| | \Box | 113 21 40 | 18 20 1 | | DEC | 25 7 12 | 24 22 32 |
| | DEC. | (2H 16 2 | 28 21 9 | | | | 1 |
| | | 1 | | 1251. | JAN | 28 19 56 | 28 12 57 |
| 1248. | JAH | 27 4 47 | 27 15 26 | ۸. | FEB | 22 8 41 | 22 4 42 |
| 36.31. | Fkn. | 25 17 81 | 26 7 11 | 18 22 42 | MAR | 28 21 25 | 28 21 18 |
| 18 5 15 | MAR. | 1 | | | 0 | (7 15 47 | 7 21 26 |
| 1 | | 26 6 15 | | | APRIL | 22 10 9 | 22 13 43 |
| | Arath | 24 18 59 | 25 5 42 | 1 | MAY . | 21 22 58 | 22 5 21 |
| | May . | 21 7 48 | 21 18 27 | | JUNE . | 20 11 37 | 20 19 28 |
| | () | J H 2 5 | 7 28 47 | 1 | July . | 20 0 21 | 20 7 49 |
| | JI'NK . | (22 20 27 | 22 20 18 | | Aug. | 18 18 5 | 18 18 41 |
| | deny. | 22 9 11 | 22 8 2 | | SEPT. | 17 1 49 | 17 4 42 |
| | Ava | 20 21 55 | 20 11 2 | | 1 | (1 20 11 | 1 9 55 |
| | HEPT. | . 19 10 89 | 18 21 10 | 1 | 0 | 16 14 83 | 16 14 86 |
| | Chir | 18 28 28 | 18 10 6 | | Oct. | , | 15 0 51 |
| | Nov | 17 12 7 | 17 2 0 | | Nov. | 15 8 17 | |
| | (1 | (2 6 29 | 2 11 84 | | DEC | 14 16 1 | 14 11 44 |
| į . | DEC. | 117 0 51 | 16 20 15 | 1252. | JAN | 18 4 45 | 12 23 16 |
| i | | , | | G.F. | FEB | 11 17 29 | 11 11 84 |
| 1010 | 1 | 17 10 01 | 17. 17. 01 | 18 4 81 | MAR | (12 6 18 | 12 0 45 |
| 1240. | JAN. | 1 | 15 15 84 | | 0 | 27 0 85 | 27 18 0 |
| | FKB. | | 14 10 22 | | APRIL | 10 18 57 | 10 14 55 |
| j 18 11 4 | MAR. | 1 | 16 8 9 | | MAY. | | 10 5 54 |
| | Arun | 14 8 47 | 14 17 6 | | JUNE . | | 8 21 20 |
| | Mar . | . 18 16 81 | 14 4 7 | | July . | | 8 12 81 |
| | Junn . | . 12 5 15 | 12 12 49 | | Ara. | 1 | |
| | Juny . | . 11 17 59 | 11 20 18 | | | | 1 |
| | Aug. | 10 6 43 | 10 8 25 | | SEPT. | | |
| | SEPT. | i . | 8 11 26 | | 0 | 20 4 59 | |
| | Our. | 4 | 7 21 4 | | Oct. | 1 | |
| | Nov. | 1 | 0 8 58 | | Nov. | 1 | 1 |
| | Den. | 1 | 1 | | DEC. | . 8 0 49 | 8 8 27 |
| 12 | 1 | 1 | 1 | 11 | - | 1 | I |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|-------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|---------------------|
| A.D. 1253. | | d. h. m. | d. h. m. | A.D. 1256. | | d. h. m. | d. h. m. |
| E. | _ | (1 13 33 | 1 14 21 | B.A. | 0 | (13 23 6 | 13 16 8 |
| | JAN | (31 2 17 | 31 0 56 | 3.C1 | JAN | (28 17 28 | 29 6 18 |
| March. | FEB | | | d. $h.$ $m.$ | FEB | 27 6 12 | 27 19 12 |
| d. h. m. | 7.5 | (1152 | 1 11 27 | 13 3 46 | MAR | 27, 18 56 | 28 5 26 |
| 13 10 19 | MAR | (31 3 46 | 30 22 12 | | APRIL | 26 7 40 | 26 13 34 |
| | APRIL | 29 16 30 | 29 9 49 | | MAY . | 25 20 24 | 25 20 32 |
| | May . | 29 5 14 | 28 22 46 | | June . | 24 9 8 | 24 3 21 |
| | June . | 27 17 58 | 27 13 11 | | 0 | 5 9 3 30 | 9 9 19 |
| | JULY. | 27 6 42 | 27 4 44 | | Jury . | 23 21 52 | 23 11 10 |
| | Aug | 25 19 26 | 25 20 44 | | Aug | 22 10 36 | 21 21 2 |
| | SEPT | 24 8 10 | 24 12 30 | | SEPT | 20 23 20 | 20 9 44 |
| | Oct | 23 20 54 | 24 3 25 | | Oct | 20 12 4 | 20 1 33 |
| | Nov | 22 9 38 | 22 17 12 | | Nov | 19 0 48 | 18 19 52 |
| 1 | DEC | 21 22 22 | 22 5 42 | | DEC | 18 13 32 | 18 15 29 |
| 1254. | JAN | 20 11 7 | 20 16 55 | | - | 17 0 17 | 17 10 99 |
| D. | 0 | (4 5 29 | 4 7 20 | 1257. G. | JAN. | 17 2 17 | 17 10 33 16 3 37 |
| | FEB | 18 23 51 | 19 2 57 | | FEB | 15 15 1 | |
| 13 16 8 | MAR. | 20 12 85 | 20 12 4 | 13 9 35 | MAR. | 17 3 45 | |
| 10 10 0 | APRIL | 19 1 19 | 18 20 55 | | APRIL | 15 16 29 | 16 4 54 15 13 31 |
| | May . | 18 14 3 | 18 6 17 | | MAY. | 15 5 13 | 13 20 37 |
| | June . | 17 2 47 | 16 17 5 | | JUNE . | 13 6 41 | 13 20 37 |
| | JULY . | (16 15 81 | 16 5 56 | | JULY . | 11 19 25 | 11 10 40 |
| | 0 | 31 9 58 | 31 11 56 | | Aug | 10 8 9 | 9 19 43 |
| | Aug | 15 4 15 | 14 21 1 | | Oct. | 9 20 53 | 9 7 18 |
| | SEPT | 13 16 59 | 13 13 50 | İ | Nov. | (8 9 37 | 7 21 48 |
| | Ocr | 13 5 43 | 13 7 27 | | 0 | 23 3 59 | 28 10 5 |
| | Nov | 11 18 27 | 12 0 46 | | DEC. | 7 22 21 | 7 14 57 |
| | DEC | 11 7 11 | 11 16 46 | | Dac. | | |
| 1255. | JAN | (9 19 55 | 10 6 50 | 1258. | JAN | 6 11 5 | 6 9 51 |
| с. | 0 | 21 14 17 | 24 8 22 | F. | FEB. | 4 23 49 | 5 4 59 |
| 1 | FEB | 8 8 39 | 8 18 43 | 13 15 24 | MAR. | 6 12 33 | 6 22 49 |
| 18 21 57 | MAR. | 9 21 23 | 10 4 35 | | APRIL | 5 1 17 | 5 14 10 |
| | APRIL | 8 10 7 | 8 12 55 | | MAY . | 5 4 14 1 | 1 |
| | MAY. | 7 22 51 | 7 20 29 | | 0 | 19 8 28 | |
| | June . | 6 11 35 | 6 4 13 | | June . | 3 2 45 | 3 12 20 |
| - | JULY. | 6 0 19 | 5 13 12 | | July . | | |
| | 0 | 20 18 41 | 21 2 0 | | Aug. | § 1 4 18 | 1 |
| | Aug | 4 13 3 | 4 0 25 | | | (30 16 57 | 1 |
| | SEPT. | 1 | 2 14 25 | | SEPT. | 1 | |
| | Ocr. | 2 14 31 | 2 7 6 | | Oct. | . 28 18 25 | |
| | NT | (1 3 15 | 1 1 38 | | 0 | (12 12 47 | |
| | Nov. | (30 15 59 | 30 20 38 | | Nov. | ` | 1 |
| | DEC. | 80 4 43 | 30 14 34 | | Dec. | . 26 19 58 | 26 11 31 |
| į | | 1 | | 11 | 1 | ı | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--------------------------------|--|---|---|--------------------------------|--|---|
| A.D. 1259. E. March. d. h. m. 18 21 12 | JAN Fer Mar April | d. h. m. 25 8 88 28 21 22 25 10 6 28 22 50 | d. h. m. 25 4 44 28 22 48 25 16 19 24 8 22 | A.D. 1262. A. March. d. h. m. 13 14 89 | JAN Feb O Mar | d. h. m. 21 23 48 20 12 32 5 7 6 54 6 22 1 16 | d. h. m. 22 0 6 20 10 24 7 19 21 21 20 42 |
| | 0 | (8 17 12 (23 11 84 22 0 18 2 1 18 2 20 1 46 18 14 80 | 8 12 82 23 22 11 22 9 40 21 19 16 20 8 52 18 12 27 | 10 14 00 | APRIL MAY . JUNE . JULY . AUG | 20 14 0 20 2 44 18 15 28 18 4 12 (16 16 56 81 11 18 | 20 7 83 19 19 33 18 9 5 18 0 7 16 16 8 81 2 58 |
| | Oct O Nov Dec | 18 8 14 { 1 21 86 { 16 15 58 16 4 42 | 17 21 46 1 28 10 16 8 19 15 20 17 | 1000 | SEPT OCT Nov DEC | 15 5 40 14 18 24 18 7 8 12 19 52 | 15 8 21 15 0 3 13 14 42 13 4 0 |
| 1260. n.c. 18 8 1 | Jan Fan Man Arrit May . June . | 14 17 27 18 6 11 18 18 55 12 7 89 11 20 28 10 9 7 | 14 9 49 18 0 41 18 16 85 12 8 57 12 0 59 10 15 55 | 1263. g. 13 20 28 | JAN FEB O MAR APRIL MAY . | 11 8 36 | 11 15 58 10 2 22 24 20 20 11 11 42 9 20 22 9 5 8 |
| | July . Aug SEPT Oct Nov | 9 21 51 8 10 83 6 28 19 6 12 8 5 0 47 4 18 81 | 10 5 16 8 17 8 7 8 41 6 18 49 5 0 8 4 10 41 | | JUNE . JULY . AUG O SEPT | 20 20 6 4 14 28 | 20 19 40 4 8 45 |
| 1261. s. 18 8 50 | Jan Frs Mar | 8 2 15 1 14 59 5 8 8 48 | 2 21 51 1 9 81 2 22 2 | 1004 | Nov. | $\begin{cases} 2 & 4 & 40 \\ 81 & 17 & 24 \end{cases}$ | 2 18 8 |
| | MAY. JUNE. | 1 16 27 1 16 27 1 5 11 80 17 55 29 6 89 | 1 11 22 1 1 48 80 16 50 29 8 18 | 1264. F.E. 18 2 17 | JAN. FEB. MAR. APRIL | 28 18 52 29 7 87 27 20 21 27 9 5 | 29 4 2 29 12 56 27 20 36 27 8 58 |
| | Juny . Aug OBET Oct | 28 19 28 27 8 7 {11 2 29 25 20 51 25 9 85 | 26 2 80 25 14 45 | | JUNE JULY AUG. SEPT. OCT. Nov. | 25 10 85 28 28 17 22 12 1 22 0 45 | 24 22 2 7 28 10 88 1 22 2 8 5 21 20 2 |
| | Nov DEC | 28 22 19 28 11 8 | 24 2 20 28 18 26 | | DEC. | 20 20 21 | |

| A.D. 1265. D. O | d. h. m. d. h. m. 16 6 8 16 0 2 14 18 52 14 17 82 15 7 86 15 11 15 (13 20 20 14 4 2 28 14 42 28 12 19 18 9 4 13 18 59 11 21 48 12 7 89 11 10 32 11 18 14 9 28 16 10 3 25 8 12 0 8 12 8 |
|--|--|
| March. d. h. m. 13 8 5 Mar. 16 17 54 16 20 54 June. 3 20 35 8 14 10 March. d. h. m. 17 3 41 17 17 11 18 16 26 19 4 37 April 17 5 10 17 13 35 May. 16 17 54 16 20 54 June. 3 16 26 38 15 3 37 0 80 1 0 30 5 31 July. 14 19 22 14 10 47 Summer March. d. h. m. 13 1 32 Mar. April O May. June. Sum A.G. March. d. h. m. 13 1 32 Mar. April O May. June. Sum Sum Sum Sum Sum Sum Sum Sum | 14 18 52 14 17 82 15 7 86 15 11 15 (13 20 20 14 4 2 28 14 42 28 12 19 18 9 4 13 18 59 11 21 48 12 7 89 11 10 82 11 18 14 9 28 16 10 8 25 8 12 0 8 12 8 |
| March. March. d. h. m. 18 14 57 19 2 53 March. d. h. m. 18 18 14 57 19 2 53 MAR. 18 18 19 10 11 11 11 11 11 11 11 11 11 11 11 11 | 15 7 36 15 11 15 (13 20 20 14 4 2 (28 14 42 28 12 19 13 9 4 13 18 59 11 21 48 12 7 89 11 10 82 11 18 14 9 28 16 10 8 25 8 12 0 8 12 8 |
| March. d. h. m. 18 16 26 19 4 37 April 17 5 10 17 13 35 Max. 16 17 54 16 20 54 June. (15 6 38 15 3 37) (80 1 0 30 5 31) July. 14 19 22 14 10 47 Suman. Annil Max. April Max. April Max. April April Suman. April April Suman. April April Suman. April April Suman. April April Suman. April Suman. April Suman. April April April Suman. Suman. April April Suman. April Suman. April Suman. April Suman. April Suman. April Suman. Suman. April Suman. April Suman. Suman. April Suman. April Suman. Suman. April Suman. April Suman. Suman. April Suman. Suman. April Suman. April Suman. Suman. April Suman. Suman. April Suman. Suman. | \[\begin{array}{cccccccccccccccccccccccccccccccccccc |
| d. h. m. MAR 18 16 26 19 4 37 APRIL 17 5 10 17 13 35 MAY . 16 17 54 16 20 54 JUNE . (15 6 38 15 3 37 O (80 1 0 30 5 31 JULY . 14 19 22 14 10 47 AUG Summer Summ | 28 14 42 28 12 19 18 9 4 13 18 59 11 21 48 12 7 89 11 10 82 11 18 14 9 28 16 10 8 25 8 12 0 8 12 8 |
| APRIL 17 5 10 17 13 35 MAY . 16 17 54 16 20 54 JUNE . {15 6 38 15 3 37 | 18 9 4 18 18 59 11 21 48 12 7 89 11 10 82 11 18 14 9 28 16 10 8 25 8 12 0 8 12 8 |
| MAY . 16 17 54 16 20 54 June . (15 6 38 15 3 37 O (80 1 0 30 5 31 July . 14 19 22 14 10 47 Aug | 11 21 48 12 7 89 11 10 82 11 18 14 9 28 16 10 8 25 8 12 0 8 12 8 |
| June . (15 6 38 15 3 37) O (80 1 0 30 5 31) July . 14 19 22 14 10 47 Aug | 11 10 82 11 18 14 9 28 16 10 8 25 8 12 0 8 12 8 |
| O 80 1 0 30 5 31 July . July . 14 19 22 14 10 47 Aug | 9 28 16 10 8 25 8 12 0 8 12 8 |
| July . 14 19 22 14 10 47 Aug | 9 28 16 10 8 25 8 12 0 8 12 8 |
| JULY . 14 10 42 11 20 21 | 8 12 0 8 12 8 |
| Aug. 13 8 6 12 19 32 Sept. • | |
| Aug. 10 0 0 11 10 01 | (8 0 44 7 21 18 |
| SEPT. 11 20 30 12 0 10 | 22 19 6 22 17 42 |
| OUT II O DE 10 II O | 6 13 28 6 7 15 |
| 1,00v 0 24 10 0 11 21 Tour | 6 2 12 5 18 82 |
| 0 301 5 21 24 5 1 | 1 7 7 7 1 7 10 |
| 1209. JAN. | 4 14 56 4 7 10 |
| 1266. JAN 7 28 46 8 5 7 F. FEB | 8 8 40 2 21 10 |
| c. FEB 6 12 30 6 23 20 13 7 21 MAR | 1 1 |
| 18 18 54 Mar. 8 1 14 8 14 57 APRIL | 8 5 8 8 4 15 |
| APRIL 6 13 58 7 3 28 | \[\frac{17}{28} \frac{80}{50} \] \[\frac{18}{5} \frac{5}{15} \] |
| May . 6 2 42 6 18 11 May | 2 17 52 2 20 21 |
| June. \$4 15 26 4 20 53 June | 1 6 36 1 11 52 |
| 0 (19 9 48 19 6 18 | (80 19 20) 1 2 7 |
| July . 4 4 10 4 3 40 July | 1 20 0 10 |
| Aug. 2 16 54 2 10 37 Aug. | 07 00 07 10 70 |
| SEPT. 1 5 38 31 18 50 SEPT. | |
| (30 18 22 30 5 10) | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ |
| Oct 30 7 6 29 18 15 Oct. | . 25 11 0 25 9 46 |
| Nov 28 19 50 28 10 10 Nov. | 21 23 44 24 20 40 |
| O \[\{ 13 14 12 \ 13 20 27 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | |
| DEC 28 8 34 28 4 17 1270. JAN. | . 28 12 29 28 7 58 |
| 1267. JAN 26 21 19 26 23 23 E. Feb. | . 22 1 18 21 19 46 |
| B. FEB 25 10 3 25 17 54 13 13 10 MAR. | |
| 13 19 43 MAR. 26 22 47 27 10 28 0 | 7 8 19 7 20 43 |
| APRIL 25 11 31 26 0 18 APRIL | |
| MAY . 25 0 15 25 11 18 MAY | |
| O 8 18 37 8 9 42 JUNE | |
| June . 23 12 59 23 20 7 July | |
| July . 28 1 48 23 8 45 Aug. | 1 |
| Aug. 21 14 27 21 11 14 SEPT. | 1 1500 00 81 |
| SEPT 20 8 11 19 19 35 | 1) 1 12 40 . |
| Ост. , 19 15 55 19 5 30 Ост. | . 16 7 5 16 12 50 |
| Nov 18 4 39 17 17 31 Nov. | |
| DEC. 17 17 23 17 7 47 DEC. | . 14 8 88 14 12 2 |

| | | (Full Ecl.) | True New Mrein. O Fuli Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-----------------------|-----------|--------------------------|------------------------------------|----------------------------|---------|------------------------------------|------------------------------------|
| A.D. 1271. | Jан | d. h. m. 12 21 18 | d. h. m. | A.D. 1274. G. | | d. h. m. | d. h. m. |
| Match. | | | | | JAN | 5 9 12 28 | 9 22 48 |
| d h. m. 1 18 18 68 | FEB. | . · · · · · - | 11 9 85 | March. | . 0 | 24 6 50 | 24 0 42 |
| #10 #10 180 | MAH., | 12 22 46 | 12 19 85 | d. h. m. | FEB | 8 1 12 | 8 14 30 |
| | Arnii | 11 11 80 | 11 5 47 | 18 12 25 | MAR. | 9 18 56 | 10 8 16 |
| | MAY . | 11 0 14 | 10 16 52 | | APRIL | 8 2 40 | 8 18 16 |
| | JUNE . | 9 12 58 | 9 5 27 | | MAY. | 7 15 24 | 7 21 12 |
| | JULY . | 9 1 42 | 8 19 42 | | JUNE. | 6 4 8 | 6 4 1 |
| | Ara | 7 14 26 | 7 11 28 | | July. | 5 16 52 | 5 10 47 |
| | Serr. | 6 8 10 | 6 8 49 | | 0 | 20 11 14 | 20 16 2 |
| | Ocr | 5 15 54 | 5 20 8 | | Aug | 4 5 36 | 8 18 83 |
| | Nov. | 4 4 88 | 4 11 88 | | SEPT | 2 18 20 | 2 4 36 |
| | Dar | 8 17 22 | 4 1 51 | | 0 | (274 | 1 17 29 |
| | | 1 | | | Ост | {81 19 48 | 81 9 25 |
| | | 2 6 6 | 2 14 81 | | Nov | 80 8 82 | 80 8 50 |
| 1272. | JAX | 181 18 60 | c 1 1 39 | | DEC | 29 21 16 | 29 28 21 |
| t.p. | Fan. | | 15 14 56 | | | | |
| , | | 1 7 84 | | 1275. | JAN | 28 10 0 | 28 18 25 |
| 18 0 47 | MAN | 180 20 18 | 190 20 8 | r. | FEB | 26 22 44 | 27 11 23 |
| 1 | A | 29 9 2 | 29 4 27 | 18 18 14 | MAR. | 28 11 28 | 29 1 23 |
| | APRIL MAY | 24 21 46 | 28 18 25 | | APRIL | 27 0 12 | 27 12 21 |
| | | 27 10 80 | 26 28 56 | | MAY . | 26 12 56 | 26 20 55 |
| 1 1 | JIME . | 4 | 24 12 42 | | June . | 25 1 40 | 25 4 2 |
| | July . | 201 231 14 | | | July . | 24 14 24 | 24 10 50 |
| | 13 | 3 10 17 39 | 10 19 81 | | Aug. | 23 8 8 | 22 18 25 |
| | Ara | (25 11 58 | 25 8 54 | | SEPT. | 21 15 52 | 21 8 48 |
| | Serr. | 21 0 42 | 28 21 8 | | Ocr. | 21 4 86 | 20 15 29 |
| | Oct. | 28 18 26 | 28 15 7 | | Nov | 19 17 20 | 1 |
| | Nov. | 92 2 10 | 22 8 54 | | 0 | (4 11 42 | |
| | Dac | 21 14 64 | 22 1 14 | | DEC | 10 | 1 4 4 4 4 4 4 4 4 |
| 1273. | JAM | 20 8 80 | 20 15 25 | 1276. | JAN | 17 18 49 | 17 17 46 |
| A. | O | S 8 22 1 | 8 16 24 | E.D. | FER | 16 7 88 | 16 12 86 |
| and a second | Fun | ₹1H 16 28 | 19 8 10 | 18 0 8 | MAR | 16 20 17 | 17 6 9 |
| 18 6 86 | Man. | 20 8 7 | 20 12 46 | | APRIL | 15 9 1 | 15 21 18 |
| | Arnit | 18 17 61 | 18 20 46 | | MAY . | (14 21 45 | 15 9 41 |
| | MAY . | . 18 6 85 | 18 4 0 | | 0 | 29 16 7 | 29 7 21 |
| *** | Juna . | 16 19 19 | 16 11 80 | | JUNE . | | 18 19 88 |
| | July . | | 15 20 22 | | JULY . | 1 | |
| | 0 | 81 2 25 | 81 9 14 | | Aug | 1 | 1 |
| | Atto. | 1 | 14 7 84 | 1 | SEPT. | 1 | 1 |
| | Barr. | 1 | 12 21 42 | | Oct. | 1 | |
| | Oct. | 1 | 12 14 88 | | Nov. | | |
| | Nov. | 1 | 11 9 25 | 11 | 0 | 22 20 8 | • |
| | Dec. | | 11 4 41 | | Dac. | | |
| 1 | Mar. | 10 20 10 | ** * ** | | J. Mari | * | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-------------------------------|--------|------------------------------------|------------------------------|---------------------------------|--------|------------------------------------|------------------------------|
| A.D. 1277. c. March. | Jan | d. h. m. 6 3 37 | d. h. m. 5 19 51 | A.D. 1280. G.F. March. | JAN | d. h. m. 3 18 48 | d. h. m. 3 22 24 |
| d. h. m. | FEB | 4 16 21 | 4 12 35 | d. h. m. | FEB | 2 7 32 | 2 8 51 |
| 13 5 51 | MAR | 6 5 5 | 6 6 6 | 12 23 18 | MAR | (2 20 15 | 2 18 43 |
| | APRIL | 4 17 49 | 4 23 17 | | 0 | (17 14 37 | 18 2 46 |
| | MAY. | 5 4 6 33 | 4 15 8 | | 1 222 | (1 8 59 | 1 4 30 |
| | 0 | (19 0 55 | 18 19 57 | | APRIL | (30 21 43 | 30 14 48 |
| | JUNE. | 2 19 17 | 3 4 58 | | MAY. | 30 10 27 | 30 2 20 |
| | JULY. | (281 | 2 16 40 | | June . | 28 23 11 | 28 15 39 |
| | JULI. | (31 20 45 | (1237 | | JULY. | 28 11 55 | 28 6 42 |
| 1 | Aug | 30 9 29 | 30 11 42 | | Aug | 27 0 39 | 26 23 0 |
| | SEPT | 28 22 13 | 28 20 45 | | 0 | (10 19 1 | 10 10 54 |
| | Ост | 28 10 57 | 28 6 26 | | SEPT | (25 13 28 | 25 15 44 |
| i i | 0 | (12 5 19 | 12 6 59 | | Oct | 25 2 7 | 25 8 1 |
| | Nov | 26 23 41 | 26 17 9 | | Nov | 23 14 51 | 23 23 10 |
| | DEC | 26 12 25 | 26 5 4 | | DEC | 23 3 35 | 23 12 45 |
| 1278. | Jan | 25 1 10 | 04 10 10 | 1281. | Jan | 21 16 20 | 22 0 39 |
| в. | FEB | 25 1 10 28 18 54 | 24 18 13 | E. | FEB | 20 5 4 | 20 10 55 |
| 13 11 40 | MAR. | | 23 8 32 | | 0 | (6 28 26 | 7 8 42 |
| 10 11 40 | APRIL | 25 2 38 | 24 23 51 | 13 5 7 | MAR | 21 17 48 | 21 19 52 |
| | MAY. | 23 15 22 | 23 15 42 | | APRIL | 20 6 32 | 20 4 5 |
| | June . | 28 4 6 | 23 7 29 | | MAY . | 19 19 16 | 19 12 27 |
| | July. | 21 16 50 21 5 34 | 21 22 28 | | JUNE. | 18 8 0 | 17 21 56 |
| | Aug. | 1 | 21 12 8 | | July. | 17 20 44 | 17 9 28 |
| | SEPT. | 19 18 18 18 7 2 | 20 0 23 | | Aug | (16 9 28 | 15 23 28 |
| | Oct | 17 19 46 | 18 11 35 | | 0 | 81 3 50 | 81 8 85 |
| | Nov. | 16 8 30 | 17 22 15 | | SEPT | 14 22 12 | 14 15 51 |
| | DEC. | 1 | 16 8 53 | | Our | 14 10 56 | 14 9 49 |
| | DEC | 15 21 14 | 15 19 40 | | Nov | 12 23 40 | 18 4 7 |
| 10 | _ | | | | Dec | 12 12 24 | 12 21 29 |
| 1279. | JAN | 14 9 58 | 14 6 40 | | | | |
| | FEB | 12 22 42 | 12 17 59 | 1282. | JAN | 11 1 8 | 11 12 52 |
| 13 17 29 | MAR | 14 11 27 | 14 5 52 | D. | FEB | 9 13 52 | 10 1 48 |
| | . 0 | (29 5 49 | 29 19 23 | 13 10 56 | MAR | 11 2 87 | 11 12 19 |
| l : | APRIL | 13 0 11 | 12 18 36 | | APRIL | 9 15 21 | 9 20 52 |
| | MAY. | 12 12 55 | 12 8 27 | | MAY . | 9 4 5 | 9 4 13 |
| | JUNE. | 11 1 39 | 10 23 17 | | June . | 7 16 49 | 7 11 21 |
| | JULY. | 10 14 23 | 10 14 44 | | JULY. | 7 5 88 | 6 19 19 |
| | Aug. | 9 3 7 | 9 6 3 | | Aug | 5 18 17 | 5 5 15 |
| | SEPT | 7 15 51 | 7 20 45 | | SEPT | 4 7 1 | 8 17 55 |
| | 0 | 22 10 13 | 21 20 43 | | Oct | 3 19 45 | 3 9 36 |
| | Ост | 7 4 35 | 7 10 29 | | Nov | 2 8 29 | 2 8 45 |
| | Nov. | 5 17 19 | 5 23 17 | | DEC | 5 1 21 18 | 1 23 5 |
| | DEC | 5 6 3 | 5 11 12 | | DRO. | (31 9 57 | 81 18 1 |
| 1 | 21 1 | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|-----------|------------------------------------|-----------------------------|
| A.D. 1283. | | d. h. m. | d. h. m. | A.D. 1286. | | d. h. m. | d. h. m. |
| c. | 0 | (15 4 19 | 14 22 55 | F. Manah | JAN | 26 13 51 | 26 8 6 |
| | JAN | (29 22 41 | 30 11 2 | March. $d. h. m.$ | FEB | 25 2 35 | 25 1 5 |
| d. h. m. | FEB | 28 11 25 | | 13 10 11 | MAR | 26 15 19 | 26 18 20 |
| 13 16 44 | Mar | 80 0 9 | { 1 1 15 30 12 29 | | APRIL | 25 4 3 | 25 10 48 9 19 53 |
| | APRIL | 28 12 53 | 28 21 14 | | O May. | 24 16 47 | 25 1 41 |
| | MAY . | 28 1 37 | 28 4 25 | | JUNE . | 23 5 81 | 23 14 30 |
| | June. | 26 14 21 | 26 11 1 | | July. | 22 18 15 | 28 1 25 |
| | 0 | (11 8 43 | 11 12 4 | | Aug. | 21 6 59 | 21 11 3 |
| | July . | {26 3 5 | 25 18 14 | | SEPT | 19 19 43 | 19 20 16 |
| | Aug | 24 15 49 | 24 8 7 | | Oct | 19 8 27 | 19 5 46 |
| | SEPT | 23 4 33 | 22 14 32 | | 0 | (8 2 49 | 8 1 24 |
| 1 | Oct. | 22 17 17 | 22 5 2 | | Nov. | 17 21 11 | 17 16 4 |
| | Nov. | 21 6 1 | 20 22 21 | | DEC | 17 9 55 | 17 8 22 |
| | DEC. | 20 18 45 | 20 17 33 | | 2 | | |
| 1004 | | 4 4 40 0 | 4 10 577 | 1287. | JAN | 15 22 40 | 15 15 47 |
| 1284. | -0 | 4 18 8 | 4 13 57 | E. | FEB | 14 11 21 | 14 5 16 |
| 27.11 | JAN | 119 7 80 | 19 13 1 | 13 16 0 | MAR | 16 0 8 | 15 19 49 |
| 10 00 00 | FEB | 17 20 14 | 18 7 5 18 22 83 | | APRIL | ∫14 12 52 | 14 11 12 |
| 12 22 33 | MAR. | 18 8 58 | | | | 129 7 14 | 29 12 58 |
| | APRIL | 16 21 42 | 17 10 57 16 20 81 | | MAY. | 14 1 36 | 14 2 56 |
| | MAY. | 16 10 26 | 15 4 16 | | JUNE. | 12 14 20 | 12 18 21 |
| | JUNE. | 29 17 32 | 29 12 48 | | Juny. | 12 8 4 | 12 8 49 |
| | 0 | | 14 11 10 | | Aug. | 10 15 48 | 10 22 0 |
| ı | JULY. | 14 11 54 | 12 18 20 | | SEPT | 9 4 32 | 9 9 57 |
| | Aug. | 13 0 88 11 13 22 | 11 2 49 | | Ocr | 8 17 16 | |
| | OCT. | 11 2 6 | 10 18 22 | | 0 | 7 6 0 | 28 1 14 |
| | | 9 14 50 | 9 2 34 | | Nov. | | 6 18 48 |
| | DEC. | (9 8 84 | 8 18 26 | | DEC | 6 18 44 | 0 10 40 |
| | O O | 28 21 56 | 21 5 19 | 1288. | JAN | 5 7 29 | 5 5 86 |
| | 1 | | | D.C. | FEB | 8 20 18 | 8 16 36 |
| 1285. | JAN | 7 16 19 | 7 12 19 | 12 21 49 | MAR. | 4 8 57 | 4 8 58 |
| G. | FEB | 6 5 8 | 6 7 6 | | APRIL | $\int 2 21 41$ | 2 15 50 |
| 13 4 22 | MAR | 7 17 47 | 8 1 17 | | 0 | (17 16 8 | |
| | APRIL | 6 6 81 | 6 17 88 | 1 | MAY . | $\int 2 10 23$ | 2 4 50 |
| | MAY. | 5 19 15 | 6 7 21 | | | (81 28 9 | 81 19 8 |
| | JUNE. | 4 7 59 | 4 18 25 | | JUNE . | 80 11 53 | 80 10 14 |
| | 0 | (19 2 21 | 18 16 32 | | JULY . | 80 0 87 | 80 1 47 |
| | Jura . | 8 20 48 | 4 8 25 | | A.ug | 28 13 21 | 28 17 5 |
| 1 | Aug | 2 9 27 | 2 11 20 | | SEPT | 27 2 5 | 27 7 87 |
| ¥ 1 | | 81 22 11 | 81 19 10 | | 0 | \\ 11 20 27 | 11 6 54 |
| | SEPT. | 80 10 55 | 80 8 58 | | Oct. | 26 14 49 | 1 0 |
| | Oct. | 29 28 89 | 29 14 5 | | Nov. | 25 8 88 | 25 9 44 |
| | Nov. | 28 12 28 | 28 2 10 | | DEC | 24 16 17 | 24 21 21 |
| | DEC | 28 1 7 | 27 16 16 | ii. | 1 | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|-------------|------------------------------|------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 1289. B. | Jan | d. h. m. 23 5 1 | d. h. m. | A.D. 1292. F.E. | JAN | d. h. m. | d. h. m. 21 6 58 |
| March. | FEB | 21 17 45 | 21 18 4 | | 0 | (4 14 83 | 4 9 12 |
| d. h. m. 13 3 37 | MAR. | 23 6 29 | 23 3 35 | March. | FEB | 19 8 55 | 19 22 32 |
| 10 00. | APRIL | 21 19 13 | 21 13 16 | d. h. m. 12 21 4 | MAR. | 19 21 39 | 20 11 9 |
| | MAY. | 21 7 57 | 20 23 51 | 12 21 = | APRIL | 18 10 23 | 18 20 57 |
| | JUNE. | 19 20 41 | 19 12 6 | | MAY. | 17 23 7 | 18 4 43 |
| | July. | 19 9 25 | 19 2 16 | | June. | 16 11 51 | 16 11 26 |
| | Aug. | 17 22 9 | 17 18 8 | ĺ | July. | (16 0 85 | 15 18 14 |
| 6/24 | SEPT. | 16 10 53 | 16 10 59 | | 0 | 30 18 57 | 80 22 47 |
| | Oct | 15 23 37 | 16 3 52 | | Aug | 14 13 19 | 14 2 18 |
| | Nov | 14 12 21 | 14 19 55 | | SEPT | 13 2 3 | 12 12 21 |
| | Dec. | 14 1 5 | 14 10 30 | | Oct. | 12 14 47 | 12 1 22 |
| 1 | 220 | | | | Nov. | 11 8 81 | 10 17 25 |
| | _ | 10 10 50 | 10 00 10 | | DEC. | 10 16 15 | 10 11 49 |
| 1290. | JAN | 12 13 50 | 12 23 19 | | D150 | 10 10 10 | 10 11 40 |
| A. | FEB | (11 2 34 | 11 10 16 | 1293. | JAN | 9 5 0 | 9 7 20 |
| 13 9 26 | O 7u | 25 20 56 | 25 22 25 | D. | FEB | 7 17 41 | 8 2 11 |
| 15 9 26 | MAR | 12 15 18 11 4 2 | 12 19 40 | 13 2 53 | MAR | 9 6 28 | 9 18 59 |
| 1 | APRIL | | 11 3 56 | -7 - 55 | APRIL | 7 19 12 | 8 8 50 |
| | MAY . | 10 16 46 | 10 11 56 | | MAY . | 7 7 56 | 7 19 48 |
| | JUNE. JULY. | 9 5 30 8 18 14 | 8 20 34 8 6 52 | | JUNE . | 5 20 40 | 6 4 16 |
| , | Aug. | (7 6 58 | 6 19 36 | | July. | 5 9 24 | 5 11 29 |
| | 0 | 22 1 20 | 22 8 19 | | Aug | 8 22 8 | 8 18 80 |
| | SEPT | 5 19 42 | 5 10 57 | | SEPT | 2 10 52 | 2 2 20 |
| | Ост | 5 8 26 | 5 4 25 | | | (1 23 36 | 1 11 54 |
| | Nov. | 3 21 10 | 3 22 55 | | Ocr | 81 12 20 | 30 28 49 |
| | DEC | 3 9 54 | 3 17 6 | | Nov | 30 1 4 | 29 14 22 |
| | DEC | 0 0 0 3 | 011 0 | | 0 | (14 19 26 | 15 8 89 |
| | | 4 00 00 | | | DEC | 29 18 48 | 29 7 15 |
| 1291. | JAN | 1 22 38 | 2 9 41 | | | | |
| G. | Ti | (31 11 22 | 31 23 53 | 1294. | JAN | 28 2 32 | 28 1 35 |
| | Feb. O | 15 5 44 | 15 0 20 | C. | FEB | 26 15 16 | 26 20 2 |
| 13 15 15 | Mar | 31 12 50 | 2 11 28 31 20 47 | 13 8 42 | MAR | 28 4 0 | 28 18 18 |
| | APRIL | 30 1 34 | 30 4 28 | | APRIL | 26 16 44 | 27 4 18 |
| | MAY. | 29 14 18 | 29.11.26 | | MAY . | 26 5 28 | 26 16 40 |
| | June. | 28 3 2 | 27 18 48 | | _ 0 | 9 23 50 | 9 14 22 |
| | JULY. | 27 15 46 | 27 3 36 | | JUNE . | (21 18 12 | 25 2 41 |
| | 0 | (11 10 8 | 11 16 30 | | JULY. | 24 6 56 | 24 11 9 |
| | Aug., | 26 4 30 | 25 14 51 | | Aug | 22 19 40 | 22 19 6 |
| | SEPT | 24 17 14 | 24 5 8 | | SEPT | 21 8 24 | 21 8 29 |
| | Oct | 24 5 58 | 23 22 15 | | Oct | 20 21 8 | 20 18 2 |
| | Nov. | 22 18 42 | 22 17 18 | | Nov. | 19 9 52 | 19 0 18 |
| | DEC. | 22 7 26 | 22 12 44 | | 0 | 4 4 14 | 4 12 52 |
| | · | 20 | - 14 TI | | Dec | (18 22 36 | 18 18 16 |
| ! | | | 1 | | | i | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox, | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|---|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1295. | | d. h. m. | d. h. m. | A.D. 1298. | | d. h. m. | d. h. m. |
| B. | JAN | 17 11 21 | 17 4 17 | E. 1 | JAN | 14 2 31 | 14 7 16 |
| March. d. h. m. | FEB | 16 0 5 | 15 20 22 | March. $d. h. m.$ | FEB | 12 15 15 | 12 17 29 |
| 18 14 80 | MAR | 17 12 49 | 17 13 21 | 13 7 57 | MAR. | (14 3 59 | 14 2 57 |
| | APRIL | 16 1 33 | 16 6 8 | | 0 | 28 22 21 | 29 10 5 |
| | MAY . | (15 14 17 | 15 21 49 | | APRIL | 12 16 43 | 12 12 12 |
| | 0 | les 8 08 | 30 3 20 | | MAY . | 12 5 27 | 11 21 59 |
| | June . | 14 3 1 | 14 11 43 | | JUNE. | 10 18 11 | 10 9 10 |
| | July. | 13 15 45 | 13 23 41 | | July. | 10 6 55 | 9 22 17 |
| | Aug | 12 4 29 | 12 10 5 | | Aug | 8 19 39 | 8 13 23 |
| | SEPT | 10 17 13 | 10 19 39 | | SEPT. | 7 8 23 | 7 6 1 |
| | Oct | 10 5 57 | 10 5 10 | | 0 | 22 2 45 | 21 19 4 |
| | Nov | ſ 8 18 4 1 | 8 15 11 | | Oct | 6 21 7 | 6 23 15 |
| | 0 | 23 13 3 | 23 14 56 | | Nov | 5 9 51 | 5 16 6 |
| | DEC | 8 7 25 | 8 2 3 | | DEC | 4 22 35 | 5 7 41 |
| 1296. | JAN | 6 20 10 | 6 13 49 | | _ | | |
| A.G. | FEB. | 5 8 54 | 5 2 34 | 1299. | JAN | 3 11 20 | 3 21 30 |
| 12 20 19 | MAR. | 5 21 88 | 5 16 17 | | FEB | 2 0 4 | 2 9 20 |
| 22 20 20 | APRIL | 4 10 22 | 4 6 59 | 13 13 46 | MAR | 3 12 48 | 3 19 20 |
| | MAY. | (3 23 6 | 3 22 24 | | 0. | 118 7 10 | 18 10 54 |
| | 0 | 18 17 28 | 18 20 16 | | APRIL | 2 1 32 | 2 8 54 |
| | JUNE. | 2 11 50 | 2 13 59 | | MAY . | 31 8 0 | 1 11 42 30 19 44 |
| | | (2 0 84 | 2 5 1 | | T | 29 15 44 | 29 4 58 |
| | Jury. | 31 13 18 | 31 19 3 | | JUNE . | 29 4 28 | 28 16 24 |
| | Aug. | 30 2 2 | 30 7 51 | | Aug. | 27 17 12 | 27 6 29 |
| | SEPT | 28 14 46 | 28 19 38 | | | (11 11 84 | |
| | Oct | 28 8 80 | 28 6 50 | | SEPT. | 26 5 56 | |
| | Nov | 26 16 14 | 26 17 46 | | Oct. | 25 18 40 | |
| | DEC | 26 4 58 | 26 4 38 | | Nov. | 24 7 24 | |
| | | | | | DEC. | 23 20 8 | 1 |
| 1297. | JAN | 24 17 42 | 24 15 26 | | | | |
| F. | FEB | 23 6 26 | 23 2 18 | 1300. | JAN. | 22 8 52 | 22 21 18 |
| 18 2 8 | MAR | 24 19 10 | 24 13 85 | C.B. | FEB. | 20 21 36 | |
| | 0 | 8 18 82 | 9 2 58 | 12 19 85 | MAR. | 21 10 20 | 1 |
| | APRIL | 28 7 54 | 23 1 44 | 12 19 55 | APRIL | 19 23 4 | |
| | MAY. | 22 20 88 | 22 15 7 | | MAY. | 19 11 48 | T |
| | JUNE . | 21 9 22 | 21 5 45 | | June . | 18 0 32 | |
| | July. | 20 22 6 | 20 21 15 | 1 | JULY. | 17 13 16 | |
| | Aug. | 19 10 50 | 19 12 57 | | Aug. | 16 2 0 | 7.1 |
| | SEPT. | 17 28 84 | 18 4 12 2 4 45 | | SEPT. | 14 14 44 | 7 623 |
| | 0 | $ \begin{vmatrix} 2 & 17 & 56 \\ 17 & 12 & 18 \end{vmatrix} $ | 17 18 34 | | Oct. | 14 3 28 | 1 1 1 1 1 1 1 1 |
| | Our. | | 16 7 52 | | Nov. | 12 16 12 | 1 |
| | Nov. | 16 1 2 15 18 46 | 15 20 6 | 1 | DEC. | 12 4 56 | |
| | DEC. | 10 10 40 | J. Z. U | 1 | | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ect.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1301. | | d. h. m. | d. h. m. | A.D. 1304. | | d. h. m. | d. h. m. |
| Α. | JAN | 10 17 41 | 11 2 5 | E.D. March. | JAN | 8 8 51 | 8 0 44 |
| | 0 | 25 12 3 | 25 7 35 | d. h. m. | FEB | 6 21 85 | 6 16 6 |
| d. h . m . | FEB | 9 6 25 | 9 19 4 | 12 18 50 | MAR | 7 10 19 | 7 8 81 |
| 13 1 23 | MAR | 10 19 9 | 11 9 9 | | APRIL | 5 28 8 | 6 1 18 |
| | APRIL | 9 7 53 | 9 20 13 | | MAY. | f 5 11 47 | 5 17 80 |
| | MAY . | 8 20 37 | 9 4 48 | | 0 | 120 6 9 | 20 8 22 |
| | June . | 7 9 21 | 7 11 52 | | June. | 4 0 81 | 4 8 19 |
| | JULY. | 6 22 5 | 6.18 30 | | July. | 3 13 15 | 8 21 22 |
| 1 | 0 | 21 16 27 | 21 18 40 | | A -== | f 2 1 59 | 2 8 41 |
| | Aug | 5 10 49 | 5 1 49 | | Aug | 181 14 48 | 81 18 49 |
| | SEPT | 3 23 33 | 3 10 50 | | SEPT | 80 8 27 | 80 4 81 |
| | Oct | 3 12 17 | 2 22 27 | | Ocr | 29 16 11 | 29 14 26 |
| | Nov | 2 1 1 | 1 13 4 | | 0 | £18 10 83 | 18 9 18 |
| | | (1 13 45 | 1 6 25 | | Nov | 128 4 55 | 28 0 58 |
| | DEC | (31 2 29 | 31 1 30 | | DEC | 27 17 89 | 27 12 15 |
| | 0 | ∫14 20 52 | 14 22 53 | 1305. | JAN | 26 6 23 | 26 0 20 |
| 1302. | JAN | 29 15 14 | 29 20 49 | C. | FEB | 24 19 7 | 24 18 16 |
| G. | FEB | 28 3 58 | 28 14 42 | 13 0 89 | MAR | 26 7 51 | 26 8 12 |
| 13 7 12 | MAR | 29 16 42 | 30 6 0 | | APRIL | 21 20 85 | 24 18 2 |
| | APRIL | 28 5 26 | 28 18 17 | | 0 | f 9 14 57 | 9 20 83 |
| | MAY. | 27 18 10 | 28 8 53 | | MAY . | 124 9 19 | 24 9 26 |
| 1 | June. | 26 6 54 | 26 11 39 | | JUNE . | 22 22 8 | 28 0 49 |
| | 0 | ∫11 1 16 | 10 19 14 | | July. | 22 10 47 | 22 15 82 |
| | JULY. | \25 19 3 8 | 25 18 45 | | Aug | 20 23 81 | 21 5 12 |
| | Aug | 24 8 22 | 24 2 11 | | SEPT | 19 12 15 | 19 17 45 |
| | SEPT | 22 21 6 | 22 10 56 | | Ocr | 19 0 59 | 19 5 28 |
| 1 | Ocr | 22 9 50 | 21 21 43 | | 0 | f 2 19 21 | 298 |
| | Nov | 20 22 31 | 20 11 0 | | Nov | 17 18 48 | 17 16 42 |
| | Dec | 20 11 18 | 20 2 43 | | DEC | 17 2 27 | 17 8 41 |
| 1000 | Ţ O | { 4 5 40 | 4 14 9 | 1306. | JAN | 15 15 12 | 15 14 28 |
| 1303. | JAN. | 19 0 2 | 18 20 17 | в. | Fкв | 14 8 56 | 14 1 6 |
| | FEB. | 17 12 46 | 17 14 39 | 18 6 28 | MAR | 15 16 40 | 15 11 50 |
| 13 13 1 | MAR. | 19 1 30 | 19 8 29 | | APRIL | {14 5 24 | 18 28 18 |
| | APRIL | 17 14 14 | 18 0 38 | | . 0 | 128 28 46 | 29 11 48 |
| | MAY . | 17 2 58 | 17 14 17 | | MAY . | 18 18 8 | 18 11 41 |
| | JUNE. | ∫15 15 42 | 16 1 28 | | June. | 12 6 52 | 12 1 84 |
| | 0 | (30 10 4 | 29 23 24 | | JULY. | 11 19 86 | 11 16 41 |
| | JULY. | 15 4 26 | 15 10 43 |] | Aug | 10 8 20 | 10 8 29 |
| | Aug | 13 17 10 | 13 18 59 | | SEPT | 8 21 4 | 9 0 18 |
| | SEPT. | 12 5 54 | 12 8 15 | | Oct | 8 9 48 | 8 15 26 |
| | Oct. | 11 18 38 | 11 12 18 | | _ 0 | 128 4 10 | 22 15 6 |
| | Nov. | 10 7 22 | 9 22 45 | | Nov | 6 22 32 | 7 5 81 |
| | DEC | 9 20 6 | 9 10 53 | | DEC | 6 11 16 | 6 18 81 |
| | 1 | 10.7 | · . | | 1 | 1 | ì |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|--------|--|---|
| A.D. 1307. | | d. h. m. | d. h. m. | A.D. 1310. | | d. h. m. | d. h. m. |
| March. | JAN Feb | 5 0 1 3 12 45 | 5 6 17 3 16 51 | D. | JAN | $\left\{ \begin{array}{cccc} 1 & 15 & 11 \\ 31 & 3 & 55 \end{array} \right.$ | 1 20 46 31 14 54 |
| d. h. m. 13 12 16 | MAR | 5 1 29 | 5 2 27 | March. | FEB. O | 14 22 17 | 14 17 35 |
| | APRIL | 3 14 13 | 3 11 28 | d. h. m. | 125.0 | (1 16 39 | 2 6 27 |
| | MAY. | 3 2 57 | 2 20 39 | 13 5 43 | MAR | 31 5 23 | 31 18 53 |
| | June . | 1 15 41 | (1 6 50 | | APRIL | 29 18 7 | 30 4 32 |
| | _ | (1 4 25 | (30 18 49 | | MAY. | 29 6 51 | 29 12 11 |
| | July. | 80 17 9 | 30 8 57 | | JUNE . | 27 19 35 | 27 18 53 |
| | Aug | 29 5 53 | 29 1 1 | | JULY. | 27 8 19 | 27 1 47 |
| | SEPT | 27 18 37 | 27 18 18 | | 0 | (11 2 41 | 11 5 38 |
| | Oct | 27 7 21 | 27 11 44 | | Aug | 125 21 8 | 25 9 56 |
| | Nov | 25 20 5 | 26 4 16 | | SEPT | 24 9 47 | 23 20 16 |
| | DEC | 25 8 49 | 25 19 9 | | Ocr | 23 22 31 | 23 9 26 |
| | | | | | Nov | 22 11 15 | 22 1 30 |
| 1308. | JAN | 23 21 33 | 24 7 58 | | DEC | 21 23 59 | 21 19 52 |
| G.F. | FEB. | 22 10 17 | 22 18 46 | 1044 | т | 00 10 49 | 00 15 10 |
| | 0 | 6 8 4 89 | 8 5 47 | 1311. c. | JAN | 20 12 43 | 20 15 10 |
| 12 18 5 | MAR. | 22 28 1 | 23 3 47 | | FEB | 19 1 27 | 19 9 48 21 2 24 |
| 12 10 0 | APRIL | 21 11 45 | 21 11 41 | 13 11 32 | MAR. | | 19 16 7 |
| | MAY . | 21 0 29 | 20 19 19 | | MAY. | 19 2 55 | 19 2 58 |
| † | JUNE . | 19 18 18 | 19 3 42 | | JUNE . | 17 4 28 | 17 11 81 |
| | JULY . | 19 1 57 | 18 13 51 | | JULY. | 16 17 7 | 16 18 58 |
| | Aug | 17 14 41 | 17 2 86 | | Aug | 15 5 51 | 15 2 18 |
| | 0 | (193 | 1 11 9 | | SEPT | 13 18 35 | 13 10 21 |
| | SEPT | 16 8 25 | 15 18 8 | | Ocr. | 13 7 19 | 12 20 12 |
| | Ocr | 15 16 9 | 15 11 55 | | Nov. | 11 20 8 | 11 8 17 |
| | Nov | 14 4 58 | 14 6 48 | | DEC. | (11 8 47 | 10 22 46 |
| | DEC | 18 17 87 | 14 1 16 | | 0 | 26 8 9 | 26 12 25 |
| | | | | | | | |
| 1309. | JAN. | 12 6 21 | 12 18 2 | 1312. | JAN. | · | 9 15 28 |
| E. | FEB. | (10 19 5 | 11 8 12 | B.A. | FEB. | 8 10 16 | 9 3 28 |
| | 0 | 25 18 27 | 25 8 9 | 12 17 21 | MAR. | 8 23 0 | 7 20 20 |
| 12 28 54 | MAR. | 12 7 50 | 12 19 87 | | APRIL | 7 0 28 | 7 11 13 |
| | APRIL | 10 20 84 | 11 4 89 | | MAY . | 7 10 10 | 5 28 38 |
| | MAY . | 10 9 18 | 10 12 5 | | JUNE . | 20 7 84 | 19 21 22 |
| | June . | 8 22 2 | 8 18 58 | | JULY. | 5 1 56 | 5 9 58 |
| | JULY . | 8 10 46 | 8 2 8 | | Aug. | 0 4 4 40 | 3 18 41 |
| | Aug | 6 28 30 | 6 10 57 | | SEPT. | 2 8 24 | 2 3 1 |
| | 0 | 21 17 52 | 21 23 53 | | DEF1. | (1 16 8 | |
| | SEPT | 5 12 14 | 4 22 19 | | Oct. | 81 4 52 | 1 |
| | Ocr | 5 0 58 | 4 12 45 | | Nov. | | 29 8 59 |
| | Nov | 8 18 42 | 8 6 8 | | 0 | (14 11 58 | |
| | DEC | 8 2 26 | 8 1 14 | | DEC. | 29 6 20 | La ser a la |
| | 1 | 1 | | | | | 4 F F |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. |
|----------------------------|------------|------------------------------------|------------------------------|----------------------------|------------|------------------------------------|------------------|
| A.D. 1313. | | d. h. m. | d. h. m. | A.D. 1316. | | d. h. m. | d. h. m. |
| G. | JAN | 27 19 4 | 27 12 21 | D.C. | JAN | 25 10 15 | 25 16 6 |
| d. $h.$ $m.$ | FEB | 26 7 48 | 26 4 2 | d. h . m . | FEB | 23 22 59 | 24 1 59 |
| 12 23 10 | MAR | 27 20 33 | 27 20 28 | 12 16 36 | MAR | 24 11 48 | 24 11 1 |
| | APRIL | 26 9 17 | 26 12 53 | | 0 | (865 | 8 17 12 |
| | MAY . | 25 22 1 | 26 4 25 | | APRIL | 23 0 27 | 22 19 46 |
| | 0 | 9 16 23 | 9 10 42 | | MAY . | 22 13 11 | 22 5 8 |
| | June . | 24 10 45 | 24 18 25 | | JUNE. | 21 1 55 | 20 16 0 |
| | July. | 23 23 29 | 24 6 44 | | July. | 20 14 39 | 20 4 58 |
| | Aug | 22 12 13 | 22 17 38 | | Aug | 19 8 23 | 18 20 13 |
| | SEPT | 21 0 57 | 21 3 43 | | SEPT | 17 16 7 | 17 13 10 |
| | Oct | 20 13 41 | 20 13 43 | | 0 | (2 10 29 | 2 8 23 |
| | Nov | 19 2 25 | 19 0 4 | | Ocr | 17 4 51 | 17 6 58 |
| | 0 | 3 20 47 | 3 22 54 | | Nov | 15 17 83 | 16 0 14 |
| | DEC | 18 15 9 | 18 11 0 | | Dec | 15 6 19 | 15 16 12 |
| 1314. | JAN | 17 3 53 | 16 22 33 | | | | ₁ .Ω |
| F. | FEB. | 15 16 37 | 15 10 48 | 1317. | JAN | 13 19 3 | 14 6 9 |
| 13 4 58 | MAR. | 17 5 21 | 16 23 56 | в. | FEB | 12 7 47 | 12 17 52 |
| 10 ± 05 | APRIL | 15 18 5 | 15 14 1 | 12 22 25 | MAR | 18 20 81 | 14 8 84 |
| | MAY . | 15 6 49 | 15 5 0 | | 0 | 128 14 53 | 28 17 48 |
| | . 0 | 80 1 11 | 30 3 45 | | APRIL | 12 9 15 | 12 11 46 |
| | June . | 13 19 33 | 13 20 23 | | MAY. | 11 21 59 | 11 19 15 |
| | JULY . | 13 8 17 | 13 11 36 | | June . | 10 10 48 | 10 2 59 |
| | Aug | 11 21 1 | 12 2 1 | | July. | 9 28 27 | 9 12 8 |
| | SEPT | 10 9 45 | 10 15 23 | | Aug | 8 12 11 | 7 28 26 |
| | Ост | 9 22 29 | 10 3 48 | | SEPT | 7 0 55 | 6 13 38 |
| | Nov | 8 11 13 | 8 15 29 | | Oct | (21 19 17 | 21 19 45 |
| | DEC | 7 23 57 | 8 2 42 | | Nov. | 6 13 39 | 6 6 82 5 1 11 |
| 1015 | - | 2 42 42 | | | DEC. | 5 2 28 4 15 7 | 4 20 12 |
| 1315. E. | JAN. | 6 12 42 | 6 13 35 | | DEC | 4 15 7 | 7 20 12 |
| | FEB MAR | 5 1 26 6 14 10 | 5 0 7 | 1010 | T | 0 0 50 | 0.14 # |
| 13 10 47 | APRIL | 6 14 10 | 6 10 30 4 21 13 | 1318. | JAN Feb | 3 3 52 1 16 86 | 8 14 5 2 5 87 |
| | APRIL | 19 21 16 | 20 10 25 | 13 4 14 | MAR. | 3 5 20 | 8 18 19 |
| | MAY. | 4 15 38 | 4 8 48 | 10 111 | APRIL | 1 18 4 | 2 4 20 |
| | JUNE . | 3 4 22 | 2 21 45 | | 47.14111 | (1 6 48 | 1 12 20 |
| | July . | 2 17 6 | 2 12 14 | | MAY . | 80 19 82 | 80 19 14 |
| | | (1 5 50 | 1 3 51 | | JUNE . | 29 8 16 | 29 2 5 |
| | Aug | 30 18 34 | 30 19 57 | | JULY. | 28 21 0 | 28 9 59 |
| | SEPT | 29 7 18 | 29 11 47 | | Aug | 27 9 44 | 26 20 2 |
| | 0 | ∫14 1 40 | 13 12 58 | | SEPT | 25 22 28 | 25 8 58 |
| | Ост | 128 20 2 | 29 2 45 | , | Oct | 25 11 12 | 25 0 59 |
| | Nov | 27 8 46 | 27 16 31 | | Nov | 28 28 56 | 28 19 27 |
| | Dec | 26 21 30 | 27 4 59 | | DEC | 28 12 40 | 28 15 8 |
| | | | | | | | |

| Mean | 3543 | Mean New | True New | Mean | | Mean New | True New |
|--------------------|--------|---------------|------------------------|--------------------|--------|------------------------|-----------|
| Vernal Equinox. | Month. | (O Full Ecl.) | Moon. (O Full Ecl.) | Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. |
| A.D. 1319, | | d. h. m. | d. h. m. | A.D. 1322. | | d. h. m. | d. h. m. |
| G. | JAN | 22 1 24 | 22 10 3 | , c. | JAN | 18 16 34 | 18 9 9 |
| March. | 0 | 5 19 46 | 5 16 10 | March. | FEB | 17 5 18 | 17 0 0 |
| d. h. m. | FEB | 20 14 8 | 21 2 57 | 13 3 29 | MAR. | 18 18 2 | 18 15 50 |
| 13 10 2 | MAR | 22 2 52 | 22 16 53 | | APRIL | 17 6 46 | 17 8 7 |
| | APRIL | 20 15 36 | 21 3 47 | 18 | MAY . | 16 19 30 | 17 0 3 |
| | MAY. | 20 4 20 | 20 12 15 | | June. | 15 8 14 | 15 14 54 |
| | June . | 18 17 4 | 18 19 18 | | JULY. | 14 20 58 | 15 4 12 |
| | JULY. | 18 5 48 | 18 2 1 | | Aug | 13 9 42 | 13 15 59 |
| | 0 | 5 2 0 10 | 2 1 21 | | SEPT | 11 22 26 | 12 2 40 |
| | Aug | (16 18 32 | 16 9 28 | | Ocr | 11 11 10 | 11 12 53 |
| | SEPT | 15 7 16 | 14 18 43 | | Nov | 9 23 54 | 9 23 13 |
| | Ocr | 14 20 0 | 14 6 31 | | DEC | 9 12 38 | 9 9 55 |
| 1 | Nov | 18 8 44 | 12 21 12 | | | | |
| | DEC | 12 21 28 | 12 14 30 | 1323. | JAN | 8 1 23 | 7 21 6 |
| 1320. | JAN | (11 10 13 | 11 9 26 | в. | FEB | 6 14 7 | 6 8 48 |
| F.E. | 0 | 26 4 85 | 26 7 40 | 13 9 18 | MAR | 8 2 51 | 7 21 11 |
| | FEB | 9 22 57 | 10 4 30 | | APRIL | 6 15 35 | 6 10 28 |
| 12 15 51 | MAR | 10 11 41 | 10 22 8 | | MAY . | (6 4 19 | 6 0 47 |
| | APRIL | 9 0 25 | 9 13 15 | | 0 | 20 22 41 | 21 4 6 |
| | MAY . | 8 13 9 | 9 1 28 | | June . | 4 17 3 | 4 15 54 |
| | June . | 7 1 53 | 7 11 6 | | July. | 4 5 47 | 4 7 17 |
| | July . | 6 14 37 | 6 19 3 | | Aug | 2 18 31 | 2 22 20 |
| | 0 | 21 8 59 | 21 1 50 | | Com | 1 7 15 | 1 12 31 |
| | Aug | 5 8 21 | 5 2 22 | | SEPT | 180 19 59 | (1 141 |
| | SEPT | 8 16 5 | 3 10 8 | ! | Oct | 30- 8 43 | (30 13 58 |
| | Ocr | 8 4 49 | 2 19 11 | | 0 | 14 8 5 | 13 17 8 |
| | Nov | 1 17 83 | f 1 6 12 | | Nov | 28 21 27 | 29 1 35 |
| | Dua | 1 6 17 | \180 19 80 | | DEC | 28, 10 11 | 28 12 40 |
| | DEC | (80 19 1 | 80 11 0 | | | | |
| | 0 | (14 18 28 | 14 22 55 | 1324. | JAN. | 26.22 56 | 26 23 16 |
| 1321, | JAN | 29 7 45 | 29 4 12 | A.G. | FEB | 25.11 40 | 25 9 30 |
| υ. | FEB | 27 20 30 | 27 22 8 | 12 15 7 | MAR | 26 0 24 | 25 19 42 |
| 12 21 40 | MAR. | 29 9 14 | 29 15 35 | | APRIL | 24 13 8 | 24 6 20 |
| | APRIL | 27 21 58 | 28 7 29 | | 0 | 9 7 30 | 9 19 9 |
| | MAY. | 27 10 42 | 27 21 9 | | MAY . | 24 1 52 | 23 18 31 |
| | June . | 25 28 26 | 26 8 31 | | JUNE. | 22.14 36 | 22 8 6 |
| | 0 | (10 17 48 | 10 6 20 | | July. | 22 3 20 | 21 23 14 |
| | July . | 25 12 10 | 25 18 5 | | Aug | 20 16 4 | 20 15 20 |
| | Aug | 24. 0 54 | 21 2 44 | | SEPT. | 19 4 48 | 19 7 39 |
| | SEPT. | 22. 13 38 | 22 11 27 | | Ост | 18 17 32 | 18 23 23 |
| | Ост | 22. 2 22 | 21 20 54 | | 0 | 2 11 54 | 1 23 28 |
| | Nov | 20.15 6 | 20 7 34 | | Nov. | 16 10 0 | 17 14 3 |
| | DEC | 20 8 50 | 19 19 38 | | DEC. | 16 19 0 | 17 3 19 |
| | | | | | 1 | t. | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1325. | | d. h. m. | d. h. m. | A.D. 1328. | | d. h. m. | d. h. m. |
| F. March. | JAN | 15 7 44 | 15 15 6 | C.B. | JAN | 12 22 54 | 18 4 42 |
| d. h. m. | FEB | 13 20 28 | 14 1 27 | March. | FEB | ζ11 11 88 | 11 22 45 |
| 12 20 55 | MAR | 15 9 12 | 15 10 40 | d. h. m. | 0 | 26 6 0 | 26 1 52 |
| | APRIL | 13 21 56 | 13 19 14 | 12 14 22 | MAR | 12 0 22 | 12 14 9 |
| | MAY . | 13 10 40 | 13 3 58 | | APRIL | 10 18 6 | 11 2 27 |
| | June . | 11 23 24 | 11 13 48 | | MAY. | 10 1 50 | 10 11 59 |
| | JULY. | 11 12 8 | 11 1 34 | | June. | 8 14 84 | 8 19 86 |
| | Aug | 10 0 52 | 9 15 44 | | July. | 8 8 18 | 8 2 21 |
| | SEPT | 8 13 36 | 8 8 2 | | Aug | 5 6 16 2 | 6 9 24 |
| | Oct | 8 2 20 | 8 1 44 | | 0 | 21 10 24 | 21 12 88 |
| | Nov | 6 15 4 | 6 19 38 | | SEPT | 5 4 46 | 4 17 46 |
| | Dec | 6 3 48 | 6 12 36 | | Ocr | 4 17 80 | 4 4 19 |
| | | | | | Nov | 8 6 14 | 2 17 87 |
| 1326. | JAN | 4 16 33 | 5 3 44 | | DEC | 2 18 58 | 2 9 41 |
| E. | FEB | 3 5 17 | 3 16 31 | | | (1 7 48 | 1 8 58 |
| 13 2 44 | MAR | (4181 | 5 8 6 | 1329. | JAN | 80 20 27 | 80 22 55 |
| | 0 | 19 12 23 | 19 13 0 | Λ. | FEB | (30 20 21 | 00 22 00 |
| | APRIL | 8 6 45 | 3 11 48 | | r.Ku. | (1 9 11 | 1 17 17 |
| | MAY. | 2 19 29 | 2 19 21 | 12 20 11 | MAR | 80 21 55 | 81 9 40 |
| | T | (1 8 13 | 1 2 42 | | APRIL | 29 10 89 | 29 28 17 |
| | JUNE . | (30 20 57 | 80 10 52 | | MAY . | 25 28 28 | 29 10 8 |
| | JULY. | 30 9 41 | 29 20 59 | | JUNE . | 27 12 7 | 27 18 52 |
| | Aug | 28 22 25 | 28 9 47 | | JULY . | 27 0 51 | 27 2 80 |
| | 0 | (12 16 47 | 12 19 9 | | Aug | 25 18 85 | 25 10 5 |
| | SEPT | 27 11 9 | 27 1 29 | | Sept | 24 2 19 | 28 18 84 |
| | Ост | 26 23 53 | 26 19 32 | | Oct | 28 15 8 | 28 4 40 |
| | Nov | 25 12 37 | 25 14 43 | | Nov | 22 8 47 | 21 16 51 |
| | Dec | 25 1 21 | 25 9 26 | | DEC. | 21 16 81 | 21 7 18 |
| | | | | 1000 | DEC | | |
| 1327. | JAN | 23 14 5 | 24 2 18 | 1330. | 0 | 5 5 10 54 | 5 21 9 |
| D. | FEB | 22 2 49 | 22 16 23 | | JAN | (20 5 16 | 19 28 81 |
| | 0 | (8 21 11 | 8 15 53 | 10 0 0 | Feb | 18 18 0 | 18 16 57 |
| 13 8 33 | MAR | 23 15 34 | 24 3 36 | 13 2 0 | MAR. | 20 6 44 | 20 10 84 |
| | APRIL | 22 4 18 | 22 12 24 | | APRIL | 18 19 28 | 19 8 18 |
| | MAY . | 21 17 2 | 21 19 38 | | MAY . | 18 8 12 | 18 18 0 |
| | June . | 20 5 46 | 20 2 19 | | June. | 16 20 56 | 17 6 82 |
| | July. | 19 18 30 | 19 9 32 | | ۰ | (1 15 18 | 1 4 24 |
| | Aug | 18 7 14 | 17 18 26 | | July. | (16 9 40 | 16 17 4 |
| , | 0 | (2 1 36 | 2 7 23 | | Aug | 14 22 24 | 15 2 17 |
| | SEPT | (16 19 58 | 16 5 56 | | SEPT | 18 11 8 | 18 11 5 |
| | Ocr | 16 8 42 | 15 20 31 | | Ocr | 12 28 52 | 12 20 17 |
| | Nov | 14 21 26 | 14 13 57 | | Nov | 11 12 86 | 11 6 27 |
| | Dec | 14 10 10 | 14 9 12 | | DEC | $\{11 \ 1 \ 20\}$ | 10 17 50 |
| | | | 13 | | 0 | 25 19 42 | 26 5 88 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | Trne New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|--|---|--|--|---|---|
| A.D. 1331. F. March. d. h. m. 13 7 48 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov O DEC | $\begin{array}{c} \textit{d. h. m.} \\ 9 \ 14 \ 4 \\ 8 \ 2 \ 48 \\ 9 \ 15 \ 32 \\ 8 \ 4 \ 16 \\ 7 \ 17 \ 0 \\ \begin{cases} 6 \ 5 \ 44 \\ 21 \ 0 \ 6 \\ 5 \ 18 \ 28 \\ 4 \ 7 \ 12 \\ 2 \ 19 \ 56 \\ \begin{cases} 2 \ 8 \ 40 \\ 31 \ 21 \ 24 \\ 30 \ 10 \ 8 \\ \end{cases} \\ \begin{cases} 15 \ 4 \ 80 \\ 29 \ 22 \ 52 \end{cases} \end{array}$ | d. h. m. 9 6 81 7 20 80 9 11 36 8 3 28 7 19 29 6 10 54 20 18 2 6 1 8 4 18 50 8 1 15 2 11 55 81 22 22 80 8 59 15 6 58 29 19 54 | A.D. 1334. B. March. d. h. m. 13 1 15 | JAN FEB MAR APRIL O MAY . JULY . AUG SEPT O OCT NOV DEC | $\begin{array}{c} \textit{d. h. m.} \\ \textit{6} \;\; 5 \;\; 14 \\ \textit{4} \;\; 17 \;\; 58 \\ \textit{6} \;\; 6 \;\; 42 \\ \textit{4} \;\; 19 \;\; 26 \\ \textit{19} \;\; 13 \;\; 48 \\ \textit{4} \;\; 8 \;\; 10 \\ \textit{2} \;\; 20 \;\; 54 \\ \textit{2} \;\; 9 \;\; 38 \\ \textit{31} \;\; 22 \;\; 22 \\ \textit{30} \;\; 11 \;\; 6 \\ \textit{28} \;\; 23 \;\; 50 \\ \textit{13} \;\; 18 \;\; 12 \\ \textit{28} \;\; 12 \;\; 34 \\ \textit{27} \;\; 1 \;\; 18 \\ \textit{26} \;\; 14 \;\; 2 \end{array}$ | d. h. m. 6 18 48 5 0 48 6 10 22 4 18 57 20 0 10 4 3 16 2 12 15 1 22 50 31 11 46 30 3 9 28 20 26 13 11 50 28 14 87 27 8 24 27 0 40 |
| 1332. E.D. 12 13 37 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV DEC | 28 11 37 27 0 21 27 13 5 26 1 49 25 14 33 9 8 55 24 3 17 28 16 1 22 4 45 20 17 29 20 6 13 18 18 57 18 7 41 | 28 7 12 26 18 57 27 7 28 25 20 59 25 11 82 9 11 12 24 2 50 28 18 18 22 9 6 20 28 4 20 12 4 19 0 18 18 11 89 | 1335. A. 18 7 4 | JAN FEB MAR O AURIL MAY . JUNE . JULY . AUG SEPT O OCT NOV | 25 2 47 28 15 81 25 4 15 8 22 87 28 16 59 28 5 48 21 18 27 21 7 11 19 19 55 18 8 89 8 8 1 17 21 28 16 10 7 | 17 14 5 16 9 1 |
| 1333. c. 12 19 26 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O NOV DEC | 16 20 25 15 9 9 16 21 58 15 10 87 80 4 59 14 28 21 18 12 5 18 0 49 11 18 88 10 2 17 24 9 28 8 8 45 7 16 29 | | 1336. g.r. 12 12 58 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEFT OCT NOV | 10 3 15 9 15 59 8 4 48 6 17 27 6 6 11 | 12 12 8 11 19 56 10 2 40 9 9 81 7 17 29 6 8 89 5 16 48 4 8 52 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox, | Month. | Mean New Moon, (O Full Eql | True New Moon. |
|----------------------------|--------|------------------------------------|--------------------|----------------------------|--------|----------------------------------|----------------|
| A.D. 1337. | | d, h. m. | d. h. m. | A,D. 1340. | | d. h. m | d. h. m. |
| E. | JAN | 2 20 23 | 2 22 58 | B.A. March. | JAN | 80 0 18 | 29 17 81 |
| March. | FEB | 1 9 7 | 1 17 54 | d. h. m. | FEB | 28 18 2 | 28 7 48 |
| d. $h.$ $m.$ | 0 | 16 3 29 | 16 0 39 | 12 12 8 | MAR | 29 1 46 | 28 28 8 |
| 12 18 41 | MAR | 2 21 51 | 8 10 40 | | APRIL | 27 14 80 | 27 14 51 |
| ļ | APRIL | 1 10 35 | 2 0 27 | | MAY . | 27 8 11 | 27 6 85 |
| | Arkit | 130 23 19 | (1 11 13 | | June . | 25 15 58 | 25 21 29 |
| | MAY . | 30 12 3 | (30 19 38) | | JULY . | 25 4 42 | 25 11 7 |
| | June . | 29 0 47 | 29 2 42 | | Aug | 28 17 26 | 28 28 24 |
| | JULY. | 28 13 31 | 28 9 84 | | SEPT | 22 6 10 | 22 10 40 |
| | 0 | 12 753 | 12 8 4 | | Ocr | 21 18 54 | 21 21 25 |
| | Aug | 27 2 15 | 26 17 17 | | Nov | 20 7 88 | 20 8 5 |
| | SEPT | 25 14 59 | 25 2 46 | | DEC | 19 20 22 | 19 18 54 |
| | Oct | 25 3 43 | 24 14 44 | | | | |
| 1 | Nov | 23 16 27 | 23 5 27 | 1341. | JAN | 18 9 7 | 18 5 54 |
| | DEC | 23 5 11 | 22 22 38 | G. | FEB. | 16 21 51 | 16 17 10 |
| 1338. | JAN | 21 17 56 | 21 17 19 | 12 17 57 | MAR. | 18 10 85 | 18 4 59 |
| ъ. | 0 | (5 12 18 | 5 16 28 | | APRIL | 16 28 19 | 16 17 40 |
| | FEB | 20 6 40 | 20 12 2 | | MAY. | (16 12 8 | 16 7 29 |
| 13 0 30 | MAR. | 21.19 25 | 22 5 25 | | 0 | 81 6 25 | 81 11 82 |
| | APRIL | 20 8 9 | 20 20 20 | | JUNE . | 15 0 47 | 14 22 22 |
| | MAY . | 19 20 53 | 20 8 84 | | July. | 14 18 81 | 14 18 49 |
| | June . | 18 9 37 | 18 18 19 | | Aug. | 18 2 15 | 18 5 12 |
| | JULY. | 17 22 21 | 18 2 28 | | SEPT. | 11 14 59 | 11 19 56 |
| 1 | 0 | (1 16 43 | 1 8 30 | | Ocr. | 11 8 48 | 11 9 48 |
| ! | Aug | (16 11 5 | 16 10 7 | | Nov. | c 9 16 27 | 9 22 83 |
| | SEPT | 14 23 49 | 14 18 14 | | 0 | 24 10 49 | 24 1 16 |
| | Ост | 14 12 33 | 14 3 87 | | DEC | 9 8 11 | 9 10 28 |
| | Nov | 13 1 17 | 12 14 49 | | | | |
| 1 | DEC | 12 14 1 | 12 4 8 | 1342. | JAN | 7 17 55 | 7 21 87 |
| 1339. | JAN | (11 2 45 | 10 19 17 | F. | FEB. | 6 6 89 | 6 7 58 |
| C. | 0 | 25 21 7 | 26 7 86 | 12 23 46 | MAR. | 7 19 28 | 7 17 46 |
| | FEB | 9 15 29 | 9 12 1 | | APRIL | 6 8 7 | 6 8 28 |
| 13 6 19 | MAR | 11 4 13 | 11 5 26 | | MAY. | (5 20 51 | 5 18 42 |
| | APRIL | 9 16 57 | 9 22 81 | | 0 | 20 15 18 | 21 2 28 |
| | MAY . | 9 5 41 | 9 14 13 | | JUNE. | 4 9 85 | 4 1 17 |
| | JUNE . | 7 18 25 | 8 8 57 | į | JULY . | 8 22 19 | 8 14 41 |
| | JULY. | 779 | 7 15 82 | | | (211 8 | 2 5 50 |
| | 0 | (22 1 31 | 21 13 20 | 1 | Aug | 81 28 47 | 81 22 15 |
| , | Aug | 5 19 58 | 6 1 29 | İ | SEPT. | 80 12 81 | 80 15 4 |
| | SEPT | 4 8 37 | 4 10 38 | | Ocr. | 80 1 15 | 80 7 25 |
| | Oct | 8 21 21 | 8 19 46 | | 0 | (18 19 87 | 18 7 56 |
| | Nov | 2 10 5 | 2 5 85 | | Nov. | 28 18 59 | 28 22 88 |
| | DEC. | 1 22 49 | 1 16 24 | | DEC. | 28 2 48 | 28 12 5 |
| | | 81 11 83 | 31 4 22 | 1 | | | |

| Mesn Vernal Equinox. | Month. | Menn New Moon. (○ Full Ecl.) | True New Moon, (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|---|--|--|---|---|--|--|
| | JAN FEB MAR APRIL MAY . JUNE . JUNE . JUNE . JUNE . JUNE . APRIL MAY . JUNE . APRIL MAY . JUNE . APRIL MAY . JUNE . JUNE . JUNE . JUNE . JUNE . JUNE . JUNE . NOV NOV | Moon. d. h. m. 26 15 28 25 4 12 26 16 56 25 5 40 21 18 24 28 7 8 22 19 52 21 8 86 19 21 20 19 10 4 17 22 48 17 11 82 16 0 17 14 18 1 15 1 45 18 14 29 18 8 18 11 15 57 11 4 41 9 17 25 { 8 6 9 { 23 0 81 7 18 58 6 7 87 | Co Full Ecl.) d. h. m. 26 28 50 25 9 59 26 18 47 25 2 55 24 11 14 22 20 48 22 8 26 20 22 87 19 15 11 19 9 17 18 8 89 17 20 58 16 12 15 15 1 0 15 11 19 18 19 42 18 2 58 11 10 8 10 18 8 9 4 12 7 17 5 28 8 15 7 8 59 6 8 18 | Vernal Equinox. A.D. 1346. A. March. d. h. m. 12 23 1 | Month. JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG OCT NOV DEC JAN FEB MAR . APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | Moon. | |
| 1345. n. 12 17 12 | JAN FER MAH O APRIL MAY . JULY . AUG O SEPT OCT Nov DEC | 4 9 5 2 21 49 4 10 88 19 4 55 2 28 17 2 12 1 1 0 45 80 18 20 80 2 18 28 14 57 (12 9 19 127 8 41 26 16 25 25 5 9 24 17 58 | 5 22 48 4 17 85 8 10 26 5 0 25 18 28 80 8 11 27 2 20 1 1 8 5 80 9 44 29 17 2 28 2 4 12 14 58 26 18 42 26 4 25 24 21 56 24 17 10 | 1348. F.E. 12 10 80 | JAN. O FEE MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEO | 8 11 80 2 0 15 16 18 87 81 12 59 { 1 1 48 80 14 27 29 8 11 28 15 55 27 4 89 {11 28 1 26 17 28 25 6 7 28 18 51 28 7 85 21 20 19 21 9 8 | 25 9 58 28 19 15 28 4 54 21 15 17 |

| Í | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New True New Moon, Moon, Moon, Co Full Ect. Co: Full Ect. |
|---|----------------------------|--------|-----------------------------------|----------------|----------------------------|--|--|
| | A.D. 1349. | | d. h. m. | d. h. m. | A.D. 1352. | Single-based on additional African Co. | d. h. m. d. h. m. |
| 1 | D. | 0 | $\int 5 \ 3 \ 25$ | | March. | JAN | 17 12 58 17 22 10 |
| | March. | JAN | (19 21 48 | 19 15 6 | d. h. m. | FEB. | 16 1 42 16 9 23 |
| | d. h. m. | FEB | 18 10 32 | 18 4 88 | 12 9 51 | MAR. | 16 11 26 16 18 87 |
| 1 | 12 16 27 | MAR. | 19 23 16 | 19 19 2 | | APRIL | 15 8 10 15 2 47 |
| ı | | APRIL | 18 12 0 | 18 10 21 | 1 | 0 | (29 21 32 39 7 2 |
| | | MAY. | 18 0 44 | 18 2 3 | | MAY . | 14 15 54 11 10 12 |
| | | JUNE. | 16 13 28 | 16 17 21 | | JUNE . | 18 4 35 12 19 22 |
| | | 0 | (1 7 50 | 1 1 26 | | July . | 12 17 22 12 5 47 |
| | | JULY. | (16 2 12 | 16 7 50 | | Arg | 11 6 6 10 18 41 |
| | | Aug | 14 14 56 | 14 21 1 | | Serr. | 9 18 50 9 10 13 |
| | | SEPT | 13 3 40 | 18 9 1 | | Ocr | 9 7 81 9 8 51 |
| | | Ocr | 12 16 24 | 12 20 15 | | O | (24 1 tot 23 20 24 |
| | | Nov | 11 5 8 | 11 7 8 | 1 | Nov | 7 20 18, 7 22 27 |
| | | DEC | (10 17 52 | 10 17 58 | | DEC | 7 9 2 7 16 98 |
| | | 0 | 25 12 14 | 25 14 51 | | | 1 |
| | | | , | | 1353. | JAN | 5 21 46 6 9 6 |
| | 1350. | JAN | 9 6 86 | 9 4 49 | F. | FEB. | |
| | c. | FEB | 7 19 20 | 7 15 45 | 10 15 10 | | |
| | 12 22 16 | MAR | 984 | 9 2 59 | 12 15 48 | MAR. | 5 23 11 6 10 82 |
| | | APRIL | 7 20 48 | 7 14 52 | | APRIL | 4 11 18 4 19 80 1 |
| | | MAY . | 7 9 32 | 7 3 51 | | O | (19 6 20 19 7 41 |
| - | | June. | (5 22 16 | 5 18 4 | | MAY. | 4 0 42 4 8 18 |
| | | 0 | (20 16 38 | 20 18 88 | | Junk. | 2 18 24 2 10 9 |
| | | July. | 5 11 0 | 5 9 17 | | July . | (2 2 10 1 17 81 |
| | | Aug | 3 23 44 | 4 0 54 | | | (BI 14 54 BI 2 2m) |
| | | SEPT | 2 12 28 | 2 16 14 | | Aug | BO B By 20 18 56 |
| - | . [| _ | (2 1 12 | 2 6 50 | | SEPT | 24 10 55 58 4 50 |
| | | Oct | \{31 13 56 | 81 20 26 | | 0 | (18 10, 44 18 19 26 |
| | | Nov | 30 2 40 | 80 9 O | | Ocr | 128 5 6 27 21 45 |
| | | DEC | 29 15 24 | 29 20 86 | | Nov. | 26 17 50 26 16 55 |
| | | | | 20 20 00 | | DEC. | 26 6 84 26 19 19 |
| | 1351. | JAN | 28 4 9 | 28 7 16 | | | |
| | в. | FEB | 26 16 53 | 26 17 7 | 1354. | JAN | 24 19 19 25 6 22 |
|] | 13 4 5 | MAR | 28 5 37 | 28 2 38 | к. | FKR. | 28 8 8 28 21 48 |
| | İ | APRIL | 26 18 21 | 26 12 9 | 12 21 82 | MAR. | 24 20 47 25 10 11 |
| | | MAY . | 26 7 5 | 25 22 46 | | APRIL. | 28 9 81 28 19 48 |
| | 1 | June . | 21 19 49 | 24 11 5 | | MAY . | |
| | | JULY. | 21 8 33 | 24 1 22 | | JUNE . | |
| | ļ | Aug | 22 21 17 | 22 17 21 | | July . | |
| | | SEPT. | 21 10 1 | 21 10 18 | | Aug | *** *** *** *** |
| | | Our | 20 22 45 | 21 8 17 | | SEPT. | |
| | | 0 | (417 7 | 4 5 49 | | Oct. | |
| | | | (19 11 29 | 19 19 20 | | Nov. | 17 18 55 17 0 40 |
| | 1 | | 19 0 18 | | - 1 | | 16 2 89 15 16 54 |
| | -30- | DEC] | 19, 0, 10 1 | 19 9 52 | 1 | DEC. | 15 15 28 15 11 26 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|----------|------------------------------------|--|----------------------------|--------|------------------------------------|----------------|
| A.D. 1355. | | d. h. m. | d. h. m. | A.D. 1358. | | d. h. m. | d. h. m. |
| D. | JAN | 14 4 8 | 14 6 55 | G. | JAN | 10 19 17 | 10 13 6 |
| 30 1 | FEB | (12 16 52 | 13 1 39 | March. | FEB. | 9 8 1 | 9 1 49 |
| March. $d. h. m.$ | 0 | 27 11 14 | 27 9 2 | d. h. m. 12 20 47 | Mar. | 10 20 45 | 10 15 29 |
| 13 3 20 | MAR | 14 5 36 | 14 18 14 | | APRIL | 9 9 29 | 9 6 9 |
| | APRIL | 12 18 20 | 13 7 52 | | MAY. | 8 22 13 | 8 21 30 |
| | MAY. | 12 7 4 | 12 18 34 | | JUNE . | 7 10 57 | 7 13 1 |
| | JUNE. | 10 19 48 | 11 3 0 | | JULY. | 6 23 41 | 7 4 3 |
| | July . | 10 8 32 | 10 10 12 | | Aug | 5 12 25 | 5 18 4 |
| | Aug | (8 21 16 | 8 17 16 | | SEPT. | 4 1 9 | 4 6 54 |
| | 0 | 23 15 38 | 23 14 56 | | Oct | 3 13 53 | 3 18 45 |
| | SEPT | 7 10 0 | 7 1 15 | | Nov. | 2 2 37 | 2 6 0 |
| | Ocr | 6 22 44 | 6 11 0 | | 1,07. | (1 15 21 | 1 16 59 |
| | Nov | 5 11 28 | 4 23 7 | | DEC | 31 4 5 | 31 3 51 |
| | DEC | 5 0 12 | 4 13 49 | | | (01 1 0 | 02 0 02 |
| 1356. | JAN | 3 12 56 | 3 6 47 | 1359. | JAN | 29 16 50 | 29 14 38 |
| C.B. | FEB | (2 1 40 | 2 1 6 | F. | FEB. | 28 5 34 | 28 1 25 |
| | 0 | 16 20 2 | 17 1 1 | 13 2 36 | MAR. | 29 18 18 | 29 12 38 |
| 12 9 9 | MAR | 2 14 24 | 2 19 26 | | APRIL | 28 7 2 | 28 0 45 |
| U | 10222111 | (1 8 8 | 1 12 32 | 1 | MAY. | 27 19 46 | 27 14 8 |
| | APRIL | 80 15 52 | 1 | | 0 | (11 14 8 | 11 18 57 |
| | MAY. | 80 4 86 | $ \begin{cases} 1 & 3 & 21 \\ 30 & 15 & 34 \end{cases} $ | | June. | 26 8 30 | 26 4 48 |
| | June . | 28 17 20 | 29 1 29 | | July . | 25 21 14 | 25 20 22 |
| | July. | 28 6 4 | 28 9 57 | | Aug | 24 9 58 | 24 12 7 |
| | | (12 0 26 | 11 15 17 | | SEPT. | 22 22 42 | 23 3 26 |
| | Aug. | 26 18 48 | 26 17 58 | | Oct | 22 11 26 | 22 17 51 |
| | SEPT. | 25 7 82 | 25 2 28 | | Nov. | 21 0 10 | 21 7 10 |
| | Oct | 24 20 16 | 24 12 10 | | 0 | (5 18 32 | 5 9 26 |
| | Nov. | 23 9 0 | 22 23 30 | | DEC | 20 12 54 | 20 19 22 |
| | DEC. | 22 21 44 | 22 12 39 | Ì | 2 | (== == == | |
| 1357. | JAN | 21 10 29 | 21 3 32 | 1360. | JAN | 19 1 39 | 19 6 29 |
| A. | | (5 4 51 | 5 16 10 | E.D. | FEB | 17 14 23 | 17 16 85 |
| | FEB | 19 28 18 | 19 19 45 | 12 8 25 | MAR. | 18 3 7 | 18 1 56 |
| 12 14 58 | MAR. | 21 11 57 | 21 12 38 | | APRIL | 16 15 51 | 16 11 4 |
| 12 14 00 | APRIL | 20 0 41 | 20 5 20 | | MAY . | (16 4 35 | 15 20 51 |
| | MAY. | 19 18 25 | 19 20 52 | 14 | 0 | 30 22 57 | 31 9 33 |
| | JUNE. | 18 2 9 | 18 10 40 | | JUNE. | 14 17 19 | 14 8 5 |
| | | 17 14 58 | (17 22 85 | | JULY. | 14 6 3 | 13 21 18 |
| | July. | 17 14 55 | 31 20 27 | 1 | Aug. | 12 18 47 | 12 12 34 |
| | Avra | 16 3 37 | 16 8 59 | | SEPT. | 11 7 31 | 11 5 19 |
| | Aug | 14 16 21 | 14 18 38 | | Oct | 10 20 15 | 10 22 39 |
| | SEPT. | | | | Nov. | (9 8 59 | 9 15 32 |
| | Nov | 14 5 5 12 17 49 | 14 4 14 12 14 23 | | 0 | 24 8 21 | 23 16 30 |
| | | 12 17 49 | 12 14 25 | | DEC | 8 21 43 | 9 7 6 |
| | DEC | 12 0 55 | 12 1 19 | 1 | | | |

| · 1 | | Te 37 | True New | Mean | | Moan New | True New |
|----------------------------|------------|------------------------------------|------------------------|-----------------------|-----------------------------------|-----------|------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | Moon. (O Full Ecl.) | Vernal Equinox. | Month. | Moon. | (O Full Bel.) |
| A.D. 1361. | | d. h. m. | d. h. m. | A.D. 1364. | -seadile de districtión de 2014 I | d. h. m. | d. h. m. |
| C. | Jan | 7 10 27 | 7 20 48 | G.F. | JAN | 5 1 87 | 5 1 7 |
| March. | FEB | 5 23 11 | 6 8 30 | March. $d.$ $h.$ $m.$ | FEB | 8 14 21 | 8 20 19 |
| d. h. m. 12 14 13 | MAR. | 7 11 55 | 7 18 19 | 12 7 89 | MAR | 14 8 5 | 4 14 1 |
| 12 14 15 | APRIL | 6 0 39 | 6 2 44 | | O | 18 21 27 | 1H 1H 4 |
| | MAY. | 5 13 23 | 5 10 29 | | Arnil | 2 15 49 | 8 5 6 |
| | JUNE. | 4 2 7 | 3 18 29 | | | (2 4 33 | 2 17 10 |
| | JULY. | 3 14 51 | 3 3 49 | | MAY. | (81 17 17 | (1 2 34 |
| | JULY. | (2 3 35 | 1 15 22 | | JUNE . | 80 6 1 | 180 10 22 |
| | Aug | 31 16 19 | 31 5 40 | | July . | 29 18 45 | 29 17 28 |
| | Com | 30 5 3 | 29 22 30 | | Aya | 28 7 29 | 24 1 2 |
| | SEPT. | 29 17 47 | 29 16 57 | | 0 | (12 1 51 | 12 2 43 |
| | Oct Nov | 28 6 31 | 28 11 42 | | SEPT. | 26 20 18 | 26 9 66 |
| | DEC. | 27 19 15 | 28 5 17 | | Ocr. | 20 8 57 | 25 20 55 |
| | DEC | 21 10 10 | 20 0 1. | | Nov. | 21 21 41 | 24 10 23 |
| | | | | | DEC. | 21 10 25 | 21 2 12 |
| 1362. | JAN | 26 8 0 | 26 20 39 | | as men | | |
| В. | FEB | 24 20 44 | 25 9 17 | 1005 | ~ | 00 00 10 | 00 10 10 |
| 12 20 2 | MAR | 26 9 28 | 26 19 20 | 1365. E. | JAN | 22 28 10 | 22 19 49 21 14 6 |
| | APRIL | 24 22 12 | 25 3 26 | | FEB | 21 11 51 | |
| | MAY . | 24 10 56 | 24 10 27 | 12 18 28 | MAR | 28 0 88 | |
| | JUNE . | 22 23 40 | 22 17 24 | | APRIL | 21 18 22 | |
| | JULY. | 22 12 24 | 22 1 25 | | MAY . | 21 2 6 | |
| | Aug | 21 1 8 | 20 11 88 | | June. | 19 14 50 | 20 0 18 |
| | SEPT | 19 13 52 | 19 0 84 | | July . | 19 8 81 | 10 0 81 |
| | 0 | (4 8 14 | 4 11 27 | | Aug | 17 16 18 | 17 17 49 |
| | Ост | 19 2 36 | 18 16 39 | | SEPT. | 16 5 2 | 16 2 10 |
| | Nov | 17 15 20 | 17 11 38 | | Our. | 15 17 46 | 15 11 24 |
| | DEC | 17 4 4 | 17 6 41 | | Nov. | 14 6 80 | 18 22 0 |
| | | | | | DEC | 18 19 14 | 18 10 18 |
| 1363. | JAN | 15 16 48 | 16 1 86 | | | | |
| A. | FEB. | 14 5 33 | 14 18 26 | 1366. | JAN | f 12 7 59 | 12 0 7 |
| 13 1 51 | MAR. | (15 18 17 | 16 8 17 | D. | 0 | 127 2 21 | 27 14 21 |
| -0 - 01 | O O | 30 12 39 | 30 7 1 | | FEB | 10 20 48 | 10 15 28 |
| | APRIL | 14 7 1 | 14 19 7 | 12 19 17 | MAR. | 12 9 27 | 12 7 62 |
| | MAY. | 13 19 45 | 14 3 34 | | APRIL | 10 22 11 | 11 0 31 |
| | JUNE . | 12 8 29 | 12 10 88 | | MAY. | 10 10 55 | 10 16 87 |
| | JULY. | 11 21 13 | 11 17 13 | | JUNE. | 8 28 89 | 9 7 20 |
| | Aug. | 10 9 57 | 10 0 38 | | July. | 8 12 28 | 8 20 17 |
| | SEPT. | 6 8 22 41 | 8 9 50 | | 0 | 28 8 45 | 22 18 40 |
| | 0 | 23 17 3 | 23 22 40 | | Avo | 7 1 7 | 7 7 36 |
| | Oct | 8 11 25 | 7 21 40 | | SEPT | 5 18 51 | 5 17 47 |
| | Nov. | 7 0 9 | 6 12 30 | | Ocr | 5 2 85 | 5 8 85 |
| | DEC. | 6 12 53 | 6 6 0 | | Nov | 8 15 19 | 8 18 183 |
| | 1 | 50 | 0 0 | | DEG | 8 4 8 | 8 0 18 |
| | 1 | 1 | 1 | II. | | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|---------------|------------------------------|------------------------------------|----------------------------|----------------|------------------------------------|------------------------------------|
| A.D. 1367. | | d. h. m. | d. h. m. | A.D. 1370. | | d. h. m. | d. h. m. |
| С. | Jan. O | 1 16 47 | 1 11 31 16 21 59 | March. d. h. m. | JAN Feb | 27 20 41 26 9 25 | 28 7 13 26 17 48 |
| March. | FEB | (31 5 31 | 30 23 35 | 12 18 32 | Mar April | 27 22 9 26 10 53 | 28 2 42 26 10 29 |
| 13 1 6 | Mar. | 1 18 15 | 1 12 29 | | O May. | 11 5 15 25 23 37 | 11 13 45 25 18 4 |
| | APRIL MAY. | 29 19 43 29 8 27 | 29 17 9 29 8 31 | | JUNE. JULY. | 24 12 21 24 1 5 | 24 2 30 28 12 47 |
| | JUNE. | 27 21 11 | 27 23 52 | | Ava | 22 13 49 | 22 1 43 |
| | _ 0 | 12 15 83 | 12 8 51 | | SEPT | 21 2 33 | 20 17 27 |
| | JULY. | 27 9 55 | 27 14 35 | | Ост | 20 15 17 | 20 11 24 |
| | AUG SEPT | 25 22 39 24 11 23 | 26 4 16 24 16 52 | | O | 4 9 39 | 4 5 9 |
| | Oct | 24 11 23 | 24 4 40 | | Nov Dec | 18 16 45 | 19 6 21 19 0 49 |
| | Nov. | 22 12 51 | 22 15 57 | | | 10 10 40 | |
| | DEC | 22 1 35 | 22 2 56 | 1371. | JAN | 17 5 30 | 17 17 27 |
| | 0 | (5 19 57 | 5 22 46 | E. | FEB. | 15 18 14 | 16 7 26 |
| 1368. | JAN | 20 14 20 | 20 13 40 | 13 0 21 | MAR | 17 6 58 | 17 18 38 |
| B.A. | FEB | 19 3 4 | 19 0 13 | | APRIL | (15 19 42 | 16 3 29 |
| 12 6 55 | MAR | 19 15 48 | 19 10 58 | | 0 | 180 14 4 | 80 14 26 |
| | APRIL | 18 4 32 | 17 22 12 | | MAY. | 15 8 26 | 15 10 48 |
| | MAY. | 17 17 16 | 17 10 40 | | June. | 18 21 10 | 13 17 34 |
| | JUNE. | 16 6 0 | 16 0 85 | | JULY. | 13 9 54 | 18 0 58 |
| | JULY. | 1 0 22 | 1 2 5 15 15 46 | | Aug | 11 22 38 | 11 9 51 |
| | Aug. | 14 7 28 | 14 7 89 | | SEPT | 10 11 22 | 9 21 26 |
| | SEPT. | 12 20 12 | 12 23 82 | | 0 | 24 18 28 | 24 20 59 |
| | Oct | 12 8 56 | 12 14 44 | | Nov | 8 12 50 | 8 5 35 |
| | Nov | 10 21 40 | 11 4 53 | | DEC | 8 1 84 | 8 0 51 |
| | DEC | 10 10 24 | 10 17 49 | | | | |
| 1369. | JAN | 8 23 9 | 9 5 80 | 1372. | JAN | 6 14 18 | 6 20 19 |
| G. | FEB | 7 11 58 | 7 15 59 | D.C. | FEB | 5 8 2 | 5 14 19 |
| 12 12 44 | MAR | 9 0 87 | 9 1 27 | 12 6 10 | MAR | 5 15 46 | 6 5 89 |
| | APRIL | 7 18 21 | 7 10 22 | | APRIL | 4 4 30 | 4 17 52 |
| | May . | 7 2 5 | 6 19 30 | | MAY . | 8 17 14 | 4 8 20 |
| | JUNE. | 5 14 49 | 5 5 48 | | JUNE. | 2 5 58 | 2 10 52 1 17 85 |
| | July . | 5 3 38 3 16 17 | 4 17 48 3 8 4 | | July . | 31 7 26 | 81 0 88 |
| | SEPT. | 2 5 1 | 2 0 18 | | Aug | 29 20 10 | 29 8 49 |
| | | (11745 | 1 17 41 | | SEPT. | 28 8 54 | 27 19 22 |
| | Oct | 81 6 29 | 81 11 10 | | Oct | 27 21 88 | 27 8 45 |
| | 0 | ∫15 0 51 | 14 14 26 | | Nov | 26 10 22 | 26 1 0 |
| | Nov | 29 19 18 | 30 3 42 | | DEC | 25 23 6 | 25 19 26 |
| | Dec | 29 7 57 | 29 18 31 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Mcon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|------------|---|------------------------------------|---|------------|--|---------------------------------|
| 1 | Jan | d. h. m. 24 11 51 23 0 35 | d. h. m. 24 14 43 23 9 34 | A.D. 1376. F.E. March. d. h. m. | Jan Feb | d, h, m, 22 - 8 - 1 20 - 15 - 45 | d. h. m. 21-21-48 20-10-1 |
| March. | Feb. | (9 18 57 | 9 17 16 | 12 5 25 | MAR | 21 4 29 | 20 23 4 |
| d. h. m. | O Mar | 24 13 19 | 25 1 37 | | APRIL | 19 17 18 | 19 18 8 |
| 12 11 59 | APRIL | 23 2 3 | 23 15 7 | | MAY. | 19 5 57 | 19 4 5 |
| | MAY. | 22 14 47 | 23 1 48 | | June . | 17 18 41 | 17 19 27 |
| | June. | 21 3 31 | 21 10 19 | | July. | 17 7 25 | 17 10 39 |
| | JULY. | 20 16 15 | 20 17 42 | | Aug | 15 20 9 | 16 1 6 |
| | Aug. | 19 4 59 | 19 1 2 | | SEPT | 14 8 58 | 14 14 31 |
| | SEPT. | 17 17 43 | 17 9 20 | | Oct | 18 21 87 | 14 2 58 |
| | Oct | 17 6 27 | 16 19 21 | | Nov | 12 10 21 | 12 14 48 |
| | Nov. | 15 19 11 | 15 7 36 | | DEC | 11 28 5 | 12 1 58 |
| | DEC | 15 7 55 | 14 22 13 | | | | |
| | D20 | 10 . 00 | | 1377. | JAN | 10 11 50 | 10 12 48 |
| 1374. | JAN | 13 20 40 | 13 14 53 | D. | FEB. | 9 0 81 | 8 28 15 |
| A. | FEB | (12 9 24 | 12 8 47 | 12 11 14 | MAR. | 10 18 18 | 10 9 34 |
| | 0 | 27 3 46 | 27 9 29 | 12 11 14 | APRIL | 9 2 2 | 8 20 12 |
| 12 17 48 | MAR | 13 22 8 | 14 2 44 | | MAY. | 8 14 46 | 8 7 46 |
| 1 | APRIL | 12 10 52 | 12 19 32 | | June . | (7 8 80 | 6 20 46 |
| 1 | May . | 11 23 36 | 12 10 13 | | O CAR | 21 21 52 | 22 2 21 |
| | JUNE . | 10 12 20 | 10 22 32 | | JULY . | 6 16 14 | 6 11 18 |
| 1 | July . | 10 1 4 | 10 8 41 | | Aug. | 5 4 58 | 581 |
| | Aug | 8 13 48 | 8 17 31 | | SEPT. | 8 17 42 | 8 19 12 |
| | 0 | 23 8 10 | 22 22 14 | | Ocr | 8 6 26 | 8 11 5 |
| | SEPT | 7 2 32 | 7 1 57 | | Nov. | 1 19 10 | 2 2 6 |
| | Ocr | 6 15 16 | 6 10 52 | | 21311 | (1 7 54 | 1 15 52 |
| | Nov | 5 4 0 | 4 20 52 | | DEC. O | 16 2 16 | 15 17 41 |
| | DEC | 4 16 44 | 4 8 17 | | | 80 20 88 | 81 4 15 |
| 1075 | T | 0 500 | 0.01.10 | | Ì | | |
| 1375. G. | JAN Feb | 3 5 28 | 2 21 16 | 1378. | JAN. | 29 9 22 | 29 14 15 |
| | 0 | $ \begin{cases} 1 & 18 & 12 \\ 16 & 12 & 34 \end{cases} $ | 1 11 42 | o. | FEB. | 27 22 6 | 28 1 1 |
| 12 23 37 | MAR. | 3 6 56 | 3 3 21 | 12 17 3 | MAR. | 29 10 50 | 29 9 55 |
| 12 20 01 | APRIL | 1 19 40 | 1 19 43 | | APRIL | 27 28 84 | 27 18 87 |
| - | | (1 8 24 | | | MAY. | 27 12 18 | 27 8 58 |
| | MAY . | 30 21 8 | | | 0 | (11 6 40 | 11 16 89 |
| | JUNE. | 29 9 52 | 29 17 22 | | JUNE. | 26 1 2 | 25 14 58 |
| | JULY. | 28 22 36 | 29 5 40 | | July. | 25 18 46 | 25 4 0 |
| | 0 | (12 16 58 | 1 | ii . | Aug. | 24 2 80 | 28 19 24 |
| | Aug | 27 11 20 | 00 | | SEPT | 22 15 14 | 22 12 80 |
| | SEPT | 26 0 4 | | 1 | Oct. | 22 8 58 | 22 6 20 |
| | Oct | 1 | 25 12 50 | | Nov. | 20 16 42 | 20 28 42 |
| | Nov | 1 | | | 0 | (5 11 4 | 5 1 10 |
| | Dec | 23 14 16 | 23 10 15 | | DEC. | 20 5 26 | 20 15 28 |
| | <u> </u> | | | 1 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-------------------------------|--------|------------------------------------|------------------------------------|-------------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1379. B. March. | Jan | d. h. m. 18 18 11 | d. h. m. 19 5 27 | A.D. 1382. E. March. | Jan | d. h. m. | d. h. m. 15 9 2 |
| d. h. m. | FEB | 17 6 55 | 17 17 0 | d. h. m. | FEB | 13 22 5 | 14 3 59 |
| 12 22 52 | MAR | 18 19 39 | 19 2 32 | 12 16 18 | MAR | ∫15 10 49 | 15 21 26 |
| | APRIL | 17 8 28 | 17 10 86 | | 0 | ₹30 5 11 | 30 2 0 |
| | MAY . | ∫16 21 7 | 16 18 0 | | APRIL | 13 23 33 | 14 12 21 |
| | 0 | 181 15 29 | (1 0 11 | | MAY . | 13 12 17 | 14 0 21 |
| | JUNE. | 15 9 51 | 15 1 44 | | June . | 12 1 1 | 12 9 53 |
| | July. | 14 22 85 | 14 10 54 | | JULY. | 11 13 45 | 11 17 47 |
| | Aug | 18 11 19 | 12 22 28 | | Aug | 10 2 29 | 10 1 9 |
| | SEPT | 12 0 8 | 11 12 53 | | SEPT | ∫ 8 15 13 | 8 9 3 |
| | Ост | 11 12 47 | 11 5 57 | | 0 | 123 9 35 | 23 9 59 |
| | Nov | 10 1 81 | 10 0 45 | | Oct | 8 3 57 | 7 18 16 |
| | DEC | 9 14 15 | 9 19 46 | | Nov | 6 16 41 | 6 5 27 |
| | } | | | | DEC | 6 5 25 | 5 18 53 |
| 1380. | JAN | 8 8 0 | 8 18 38 | | | | 1 |
| A.G. | FEB | 6 15 44 | 7 4 56 | 1383. | JAN | 4 18 9 | 4 10 28 |
| 12 4 41 | MAR. | 7 4 28 | 7 17 25 | D. | FEB | 3 6 53 | 3 3 40 |
| | APRIL | 5 17 12 | 6 8 15 | 12 22 7 | MAR | 4 19 38 | 4 21 32 |
| | MAY . | 5 5 56 | 5 11 6 | | APRIL | 8 8 22 | 3 14 50 |
| | JUNE . | 8 18 40 | 8 17 56 | | MAY . | 2 21 6 | 3 6 34 |
| | JULY . | 8 7 24 | 8 0 47 | | T | 1 9 50 | 1 20 5 |
| | A | 1 20 8 | 1 8 49 | | June . | 180 22 34 | (1 7 21 |
| | Aug | 81 8 52 | 80 19 4 | | JULY . | 80 11 18 | (80 16 55 |
| | SEPT | 29 21 86 | 29 8 13 | | Aug | 29 0 2 | 29 1 39 |
| | 0 | £14 15 58 | 14 19 49 | | SEPT | 27 12 46 | 27 10 26 |
| , | Ост | 29 10 20 | 29 0 27 | | Ocr | 27 1 30 | 26 20 2 |
| | Nov | 27 28 4 | 27 19 3 | | Nov | 25 14 14 | 25 6 48 |
| | DEC | 27 11 48 | 27 14 40 | | DEC | 25 2 58 | 24 18 58 |
| 1381. | JAN | 26 0 82 | 26 9 34 | 1384. | JAN | 23 15 42 | 23 8 30 |
| ¥. | FEB | 24 18 16 | 25 2 16 | C.B. | 0 | 7 10 4 | 7 22 45 |
| 12 10 80 | MAR | 26 2 0 | 26 15 58 | | FEB | 122 4 26 | 21 23 19 |
| | 0 . | § 9 20 22 | 9 14 28 | 12 8 56 | MAR | 22 17 10 | 22 15 7 |
| | APRIL | 124 14 44 | 25 2 39 | | APRIL | 21 5 54 | 21 7 18 |
| | MAY . | 24 8 28 | 24 10 59 | | MAY . | 20 18 38 | 20 23 9 |
| | June . | 22 16 12 | 22 17 59 | | JUNE . | 19 7 22 | 19 13 55 |
| | July . | 22 4 56 | 22 0 44 | | July. | 18 20 6 | 19 8 11 |
| | Aug | 20 17 40 | 20 8 19 | | . 0 | 2 14 28 | |
| | SEPT | 19 6 24 | 18 17 45 | | Aug | 17 8 50 | |
| | 0 | § 4 0 46 | 4 6 27 | l | SEPT | 15 21 34 | |
| | Oct | 18 19 8 | 18 5 46 | 1 | Oct | 15 10 18 | . 61 |
| | Nov | 17 7 52 | 16 20 89 | | Nov. | 13 23 2 | |
| | DEC | 16 20 86 | 16 14 4 | | DEC | 13 11 46 | 13 9 11 |
| | | | | II . | 1 | 1 | 1 1000 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (OFull Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Rol.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 1385. | | d. h. m. | d. h. m. | A.D. 1388. | | d. h. m. | d. h. m. |
| Δ. | Jan | (12 0 30 | 11 20 20 | E.D. | JAN | 9 15 41 | 10 8 6 |
| | 0 | 26 18 52 | 27 6 4 | March. d. h. m. | FEB | 8 4 25 | 8 15 45 |
| March. | FEB | 10 13 15 | 10 8 1 | 12 3 12 | MAR | 8 17 9 | 9 2 7 |
| d. h. m. 12 9 45 | MAR. | 12 1 59 | 11 20 20 | | APRIL | 7 5 58 | 7 10 40 |
| 12 0 10 | APRIL | 10 14 43 | 10 9 35 | | MAY . | (61887 | 6 18 7 |
| | MAY. | 10 3 27 | 9 23 52 | | 0 | 21 12 59 | 21 20 21 |
| | JUNE . | 8 16 11 | 8 14 58 | | JUNE . | 5 7 21 | 5 1 26 |
| | July. | (8 4 55 | 8 6 23 | | July. | 4 20 5 | 4 9 41 |
| | 0 | 22 28 17 | 22 16 21 | | Aug. | 8 8 49 | 2 19 55 |
| ! | Aug | 6 17 39 | 6 21 25 | | SEPT. | 1 21 88 | 1 8 56 |
| | SEPT. | 5 6 23 | 5 11 38 | | | (1 10 17 | 1 0 50 |
|] | Oct. | 4 19 7 | 5 0 51 | | Oct | 80 28 1 | 80 19 4 |
| 1 | Nov. | 3 7 51 | 3 13 12 | | 0 | (14 17 28 | 14 18 59 |
| | DEC | 2 20 35 | 3 0 51 | | Nov. | 29 11 45 | 29 14 18 |
| 1 | DEC | 2 20 00 | 0 0 01 | | Dec. | 29 0 29 | 29 9 0 |
| | | (1 9 19 | 1 11 53 | | DEC | 20 0 20 | 20 0 0 |
| 1386. | Jan. 0 | 16 3 41 | 16 6 42 | 1389. | JAN. | 27 18 18 | 28 1 41 |
| G. | | 30 22 3 | 30 22 25 | C. | FEB | 26 1 57 | 26 15 81 |
| | FEB | | | 12 9 0 | MAR. | 27 14 41 | 28 2 84 |
| 12 15 34 | MAR | (1 10 47 | 1 8 32 | 11 0 0 | APRIL | 26 8 25 | 26 11 12 |
| 12 10 01 | MLAR | \30 23 31 | 30 18 40 | | 0 | (10 21 47 | 10 21 8 |
| | APRIL | 29 12 15 | 29 5 26 | | MAY . | 25 16 9 | 25 18 19 |
| | MAY . | 29 0 59 | 28 17 27 | | June. | 24 4 58 | 24 0 58 |
| | JUNE. | 27 13 43 | 27 7 6 | | July. | 28 17 87 | 23 8 18 |
| | 0 | (12 8 5 | 12 9 32 | | Aug | 22 6 21 | 21 17 22 |
| | JULY. | 27 2 27 | 26 22 20 | | SEPT. | 20 19 5 | 20 5 5 |
| | Aug | 25 15 11 | 25 14 32 | | Oct. | 20 7 49 | 19 19 52 |
| | SEPT | 24 3 55 | 24 6 55 | V | | (4 2 11 | 4 5 87 |
| | Ост | 23 16 39 | 23 22 43 | | Nov. | 18 20 88 | 18 18 28 |
| | Nov | 22 5 23 | 22 13 23 | | DEC. | 18 9 17 | |
| | DEC | 21 18 7 | 22 2 37 | | DEC | 10 9 11 | 18 8 49 |
| 1387. | JAN | 20 6 51 | 20 14 18 | 1390. | JAN | 16 22 2 | 17 4 16 |
| F. | FEB | 18 19 36 | 19 0 33 | В. | FEB. | 15 10 46 | 15 22 10 |
| 12 21 23 | MAR | 20 8 20 | 20 9 37 | 12 14 49 | MAR. | 16 28 80 | 17 18 20 |
| | APRIL | 18 21 4 | 18 18 5 | | APRIL | (15 12 14 | 16 1 24 |
| | MAY . | 18 9 48 | 18 2 47 | | 0 | 80 6 86 | 80 0 15 |
| | JUNE. | 16 22 32 | 16 12 39 | | MAY . | 15 0 58 | 15 10 46 |
| | JULY. | 16 11 16 | 16 0 33 | | JUNE . | 18 18 42 | 18 18 18 |
| | Aug | 15 0 0 | 14 14 52 | | JULY. | 18 2 26 | 18 1 8 |
| | SEPT | 13 12 44 | 13 7 21 | | Aug. | 11 15 10 | 11 8 12 |
| | Ост | 13 1 28 | 13 1 10 | | SEPT. | 10 8 54 | 9 16 44 |
| | Nov | (11 14 12 | 11 19 8 | | Oct. | 9 16 88 | 9 8 29 |
| | 0 | 26 8 34 | 25 23 9 | | Nov. | 8 5 22 | |
| | DEC | 11 2 56 | 11 12 5 | | DEC. | 7 18 6 | |
| | | | | | | | 7 9 12 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|--|-----------------------------------|--------------------------------|------------|---|------------------|
| A.D. 1391. | _ | d. h. m. | d. h. m. 6 3 27 | A.D. 1394. _{D.} | Jan | d. h. m. | d. h. m. 2 19 10 |
| March. | JAN | 6 6 51 | - 1 | March. | | 1 10 45 | 1 6 25 |
| d. h. m. | FEB. | 4 19 35 | 4 22 28 6 16 41 | d. h. m. 12 14 4 | FEB MAR | 2 23 29 | 2 18 6 |
| 12 20 38 | MAR | 6 8 19 | 21 1 24 | 12 14 4 | APRIL | 1 12 13 | (1 6 33 |
| | • | (21 2 41 4 21 3 | 5 8 52 | | EXPRIL | (1 0 57 | { 80 20 B |
| | APRIL | | 4 22 15 | | MAY . | 30 13 41 | 30 10 36 |
| | MAY. | 4 9 47 2 22 31 | 3 8 58 | | June . | 29 2 25 | 29 1 54 |
| | June. | | 2 17 37 | | JULY. | 28 15 9 | 28 17 19 |
| | July. | 2 11 15 | | | | 27 3 53 | 27 8 14 |
| | | 31 23 59 | 1 1 16 | | Aug | 25 16 37 | 25 22 15 |
| _ | Aug | 30 12 43 | 130 8 57 | | SEPT. | 25 10 57 | 25 11 18 |
| - | SEPT. | 29 1 27 | 28 17 35 | | Oct | 23 18 5 | 23 23 30 |
| | Ocr | 28 14 11 | 28 3 52 | | Nov. | 23 18 3 | 28 10 55 |
| | Nov | 27 2 55 | 26 16 12 | | DEC | 20 0 49 | 20 10 00 |
| | DEC | 26 15 39 | 26 6 89 | 1395. | JAN | 21 19 33 | 21 21 38 |
| | ~ | 07 4 00 | 24 22 57 | C. | FEB. | 20 8 17 | 20 7 46 |
| 1392. G.F. | JAN | 25 4 28 | 28 16 21 | | MAR. | 21 21 1 | 21 17 35 |
| G.F. | FEB | 28 17 7 | 9 17 49 | 12 19 53 | APRIL | 20 9 45 | 20 3 89 |
| | 0 | 9 11 29 | | | | 19 22 29 | 19 14 44 |
| 12 2 27 | MAR | 24 5 51 | | | MAY. | 18 11 13 | 18 3 24 |
| | APRIL | 22 18 35 | 23 2 21 | | JUNE. | (3 5 35 | 3 9 44 |
| | MAY. | 22 7 19 | 22 16 59 | | _ 0 | 17 28 57 | 17 17 51 |
| | JUNE. | 20 20 3 | 21 5 25 | | July . | 1 | 16 9 44 |
| 1 | July | 20 8 47 | 20 15 54 | | Aug. | 1 1 1 0 2 | 15 2 21 |
| | Aug | 18 21 31 | 19 1 9 | | SEPT. | 14 14 9 | 14 18 50 |
| | 0 | $\int_{0.07}^{0.07} 2 \cdot 15 \cdot 58$ | 2 5 16 | | Oor. | 13 2 58 | 13 10 23 |
| | SEPT | 17 10 15 | 17 10 2 | | Nov. | | |
| 1 | Ocr | 16 22 59 | 16 19 22 | | DEC. | $\begin{cases} 12 & 15 & 37 \\ 27 & 9 & 59 \end{cases}$ | |
| 1 | Nov | 15 11 43 | 15 5 89 | | 0 | 127 9 59 | 21 1 50 |
| | DEC | 15 0 27 | 14 17 6 | 1396. | JAN. | 11 4 21 | 11 18 8 |
| 1393. | T | 13 13 11 | 13 5 50 | B.A. | FEB. | 9 17 6 | |
| E. | JAN. | (12 1 56 | 11 19 48 | 12 1 42 | MAR. | | |
| | FEB | 26 20 18 | 27 8 51 | 12 1 42 | APRIL | 0 40 04 | 1 - 1 - 14 |
| 10 0 10 | 0 | 1 | 13 10 52 | | MAY | | |
| 12 8 16 | MAR. | 13 14 40 12 8 24 | 12 2 40 | | JUNE | | |
| | APRIL | | 11 18 86 | | O | 21 14 24 | |
| | MAY . | 11 16 8 | 10 9 58 | | JULY | 1 ' | 1 |
| | JUNE. | 9 17 36 | | | Aug. | | 1 |
| | JULY. | 0 0 00 | | | SEPT. | | |
| | Aug. | 1.7 | | | Our. | 2 22 58 | |
| | 0 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | | | Nov. | | _ |
| | SEPT. | | | | 1,00 | 1 0 2 | 1 7 2 2 2 |
| | Oct | 6 7 48 | | | DEC. | 1 (| |
| | Nov. | | | | | 80 18 1 | |
| | DEC | 4 9 16 | 4 8 13 | | | 100 10 1 | |
| | 1 | 1 | 1 | 11 | 1 | 1 | . 1 |

| _ | | | | | i . | 1 | 1 |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|------------|------------------------------|---------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| A.D. 1397. | | d. h. m. | d. h. m. | A.D. 1400. | | d. h. m. | d. h. m. |
| G. | JAN | 29 1 55 | 29 13 59 | D.C. | JAN | 26 17 5 | 26 16 52 |
| March. | FEB | 27 14 39 | 28 1 23 | d. h . m . | FEB | 25 5 49 | 25 11 29 |
| d. h. m. 12 7 31 | Mar. | 29 3 23 | 29 10 36 | 12 0 57 | MAR | 25 18 33 | 26 4 40 |
| 12 . 01 | APRIL | 27 16 7 | 27 18 20 | | 0 | 9 12 55 | 9 9 50 |
| | MAY. | 27 4 51 | 27 1 28 | | APRIL | 24 7 17 | 24 19 26 |
| ł l | 0 | (10 23 13 | 11 6 50 | | MAY . | 23 20 1 | 24 7 27 |
| | June . | 25 17 35 | 25 8 59 | | JUNE. | 22 8 45 | 22 17 6 |
| | JULY. | 25 6 19 | 24 18 6 | | JULY. | 21 21 29 | 22 1 15 |
| | Aug | 23 19 3 | 23 5 41 | | Aug | 20 10 18 | 20 8 57 |
| | SEPT. | 22 7 47 | 21 20 14 | | SEPT | 18 22 57 | 18 17 12 |
| 1 | Oct | 21 20 31 | 21 13 33 | | 0 | (3 17 19 | 8 17 28 |
| | Nov. | 20 9 15 | 20 8 36 | | Ост. | 18 11 41 | 18 2 44 |
| 1 | DEC. | 19 21 59 | 20 3 52 | | Nov. | 17 0 25 | 16 14 5 |
| 1 | | 10 21 00 | 20 0 02 | | DEC. | 16 18 9 | 16 3 28 |
| | _ | 10 10 10 | 10.01.44 | | | | |
| 1398. F. | JAN | 18 10 43 | 18 21 44 | 1401. | T | 15 1 50 | 14 18 44 |
| 1 | FEB | 16 23 27 | 17 13 4 | 1401. B. | JAN | 15 1 58 | |
| 12 13 20 | MAR | 18 12 11 | 19 1 28 | | FEB | 18 14 87 | 18 11 27 |
| | APRIL | 17 0 55 | 17 10 59 | 12 6 46 | MAR | 15 8 21 | 15 4 47 |
| | MAY . | 16 13 39 | 16 18 40 | | APRIL | 18 16 5 | 18 21 48 |
| | JUNE. | 15 2 23 | 15 1 22 | | MAY. | 13 4 49 | 18 18 17 |
| | JULY . | 14 15 7 13 3 51 | 14 8 13 | | JUNE. | 11 17 38 | 12 2 51 |
| 1 1 | AUG | 13 3 51 11 16 35 | 12 16 19 11 2 42 | | JULY. | 9 19 1 | 11 14 24 10 0 21 |
| 1 | _ | (11 5 19 | 10 16 2 | 110 | Aug | | |
| | Ост | 25 23 41 | 26 4 16 | | SEPT | 8 7 45 7 20 29 | 8 9 84 7 18 49 |
| | Nov | 9 18 3 | 9 8 22 | | Ocr | | |
| | DEC | 9 6 47 | 9 3 1 | | Nov. | 6 9 18 | 6 4 45 |
| | DE0 | 3 0 41 | 9 9 1 | | Dec | 5 21 57 | 5 15 89 |
| 1399. | Jan | 7 19 32 | 7 22 37 | 1402. | JAN | 4 10 42 | 4 8 42 |
| E. | FEB | 6 8 16 | 6 17 23 | Α. | FEB | (2 28 26 | 2 16 50 |
| 12 19 9 | MAR | 7 21 0 | 8 9 57 | | 0 | 17 17 48 | 18 7 8 |
| | APRIL | 6 9 44 | 6 23 30 | 12 12 35 | MAR | 4 12 10 | 474 |
| | 0 | 21 4 6 | 20 21 41 | | APRIL | 8 0 54 | 2 22 16 |
| | MAY . | 5 22 28 | 6 10 5 | | MAY . | 2 13 38 | 2 14 1 |
| | JUNE. | 4 11 12 | 4 18 21 | | . . | (1 2 22 | 1 5 40 |
| | JULY. | 3 23 56 | 4 1 26 | | JUNE. | 30 15 6 | 80 20 80 |
| | Aug | 2 12 40 | $\int_{0.0}^{2} 2821$ | | JULY . | 80 8 50 | 80 10 7 |
| | SEPT | f 1 1 24 | (31 16 12 | | 0 | (18 22 12 | 18 9 19 |
| | | 30 14 8 | 30 1 52 | | Aug | 28 16 81 | 28 22 25 |
| | 0 | ∫15 8 30 | 15 14 23 | | SEPT | 27 5 18 | 27 9 45 |
| | Ост. | 30 2 52 | 29 14 3 | | Oct | 26 18 2 | 26 20 88 |
| | Nov | 28 15 36 | 28 4 56 | | Nov | 25 6 46 | 25 7 18 |
| | DEC | 28 4 20 | 27 22 13 | | DEC | 24 19 80 | 24 18 9 |
| | | <u> </u> | | | | | |
| | | | | | | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------------|
| A.D. 1403. | | d. h. m. | d. h. m. | A.D. 1406. | | d. h. m. | d. h. m. |
| G. | JAN | 23 8 1.4 | 23 5 6 | C. | JAN | 19 23 24 | 20 11 35 |
| 3.6 | 0 | 7 2 36 | 7 14 1 | d. $h.$ $m.$ | FEB | 18 12 8 | 19 0 8 |
| March. | FEB | \(\) 21 20 58 | 21 16 19 | 12 11 50 | MAR | 20 0 52 | 20 10 16 |
| 12 18 24 | MAR | 23 9 42 | 23 4 3 | | APRIL | 18 13 36 | 18 18 29 |
| | APRIL | 21 22 26 | 21 16 41 | | MAY . | 18 2 20 | 18 1 39 |
| | MAY . | 21 11 10 | 21 6 31 | | 0 | f 1 20 42 | 2 2 58 |
| | JUNE . | 19 28 54 | 19 21 25 | | June. | (16 15 4 | 16 8 45 |
| | July. | 19 12 38 | 19 12 54 | | JULY. | 16 3 4 8 | 15 16 54 |
| | 0 | (870 | 2 23 56 | | Aug | 14 16 32 | 14 3 9 |
| | Aug. | 18 1 22 | 18 4 19 | | SEPT | 13 5 16 | 12 16 16 |
| | SEPT | 16 14 6 | 16 19 6 | | Ост | 12 18 0 | 12 8 23 |
| 1 | Ocr | 16 2 50 | 16 8 57 | | Nov | 11 6 44 | 11 2 51 |
| | Nov | 14 15 84 | 14 21 48 | | 0 | 26 1 6 | 25 22 58 |
| | DEC | 14 4 18 | 14 9 44 | | DEC | 10 19 28 | 10 22 18 |
| 1404. | JAN. | (12 17 8 | 12 20 49 | 1407. | JAN | 9 8 13 | 9 17 6 |
| F.E. | 0 | 27 11 25 | 27 14 29 | 1407. B. | FEB. | 7 20 57 | 8 9 48 |
| | FEB | 11 5 47 | 11 7 6 | 12 17 39 | MAR. | 9 9 41 | 9 23 33 |
| 12 0 13 | MAR. | 11 18 81 | 11 16 46 | 12 17 59 | 1 . | 7 22 25 | 8 10 22 |
| | APRIL | 10 7 15 | 10 2 22 | | MAY. | (711 9 | 7 18 47 |
| | MAY. | 9 19 59 | 9 12 36 | | MAY. | 22 5 31 | 22 3 38 |
| | JUNE . | 8 8 48 | 8 0 14 | | JUNE . | 5 28 58 | 6 1 47 |
| | July . | 7 21 27 | 7 18 42 | | July . | 5 12 37 | 5 8 26 |
| | 0 | 22 15 49 | 22 17 4 | | Aug. | 4 1 21 | 3 15 50 |
| 1 | Aug | 6 10 11 | 6 4 59 | | SEPT. | 2 14 5 | 2 1 2 |
| | SEPT | 4 22 55 | 4 21 31 | | DELT | (2 2 49 | |
| | Ocr | 4 11 89 | 4 14 26 | | Ocr | 81 15 88 | |
| | Nov | 8 0 28 | 8 6 49 | | | (15 9 55 | |
| | DEC. | 2 18 7 | 2 21 57 | | Nov. | 180 4 17 | |
| 4407 | _ | (1 1 52 | 1 11 21 | | DEC. | 29 17 1 | |
| 1405. | JAN | 80 14 86 | 80 28 2 | 1400 | JAN | 28 5 46 | 28 12 7 |
| | FEB | ••• | ••• | 1408. | FEB. | 26 18 30 | |
| 12 6 2 | Man | ſ 1 8 20 | 1 9 0 | | MAR. | 27 7 14 | 1 |
| 12 0 2 | MAR | 80 16 4 | 80 17 41 | 11 23 28 | APRIL | 25 19 58 | |
| | APRIL | 28 4 48 | 29 1 48 | | 1 | (10 14 20 | |
| 1 | MAY . | 28 17 82 | 28 10 2 | | MAY. | 25 8 42 | |
| | June . | 27 6 16 | 26 19 88 | | JUNE . | 23 21 26 | |
| | JULY . | 26 19 0 | 26 7 26 | | JULY. | 23 10 10 | |
| | Aug | 25 7 44 | 24 21 49 | | Aug. | 21 22 54 | |
| | SEPT | 28 20 28 | 28 14 88 | | SEPT. | 20 11 88 | 100 |
| | Ocr | 28 9 12 | 28 8 48 | | OCT. | 20 11 30 | 7.0 |
| | Nov | 21 21 56 | 22 8 11 | | Nov. | 18 18 6 | I talk to the second |
| | 0 | 6 16 18 | 6 7 56 | | DEC. | | 100 -100 11-1 |
| | DEC | 21 10 40 | 21 20 27 | | DEC | 10 1 50 | |
| 1 | I | 1 | 1 | 1) | | 1 | , |

| | <u> </u> | Ī | 1 | 11 | | | |
|----------------------------|-----------|------------------------------------|------------------------------------|----------------------------|---------|------------------------------------|----------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| A.D. 1409. | | d. h. m. | d. h. m. | A.D. 1412. | | d. h. m. | d. h. m. |
| F. March. | JAN | 16 14 34 | 16 11 24 | C.B. | JAN | 14 5 44 | 14 4 3 |
| d. $h.$ $m.$ | FEB | 15 3 18 | 15 6 2 | March. $d. h. m.$ | FEB. | 12 18 28 | 12 14 55 |
| 12 5 17 | MAR | (16 16 2 | 16 23 56 | 11 22 43 | MAR. | 13 7 12 | 13 2 4 |
| | 0 | 31 10 24 | 31 9 22 | | APRIL | 11 19 56 | 11 13 54 |
| | APRIL | 15 4 46 | 15 15 54 | | May. | 11 8 40 | 11 2 52 |
| | MAY . | 14 17 30 | 15 5 16 | | JUNE. | 9 21 24 | 9 17 7 |
| | June. | 13 6 14 | 13 16 3 | | JULY. | 9 10 8 | 9 8 21 |
| | JULY. | 12 18 58 | 13 0 56 | | Aug. | 7 22 52 | 8 0 2 |
| | Aug | 11 7 42 | 11 8 55 | | SEPT. | 6 11 36 | 6 15 26 |
| | SEPT | 9 20 26 | 9 16 59 | | Ост. | 6 0 20 | 6 6 5 |
| | Ост | 9 9 10 | 9 1 58 | | Nov. | 4 13 4 | 4 19 44 |
| | Nov | 7 21 54 | 7 12 29 | 16 | DEC. | 4 1 48 | 4 8 17 |
| | DEC | 7 10 38 | 7 0 51 | | DEC | # 1 #O | # 011 |
| | | | | 1413. | - | 0.14.00 | 0 40 40 |
| 1410. | JAN | 5 23 23 | 5 15 6 | A. | JAN | 2 14 33 | 2 19 52 |
| E. | FEB | 4 12 7 | 4 6 57 | | FEB. | 1 3 17 | 1 6 26 |
| 12 11 6 | MAR | 6 0 51 | 5 23 48 | 12 4 32 | MAR. | 2 16 1 | 2 16 11 |
| | 0 | 120 19 13 | 21 2 1 | | APRIL | 1 4 45 | 1 1 29 |
| | APRIL | 4 13 35 | 4 16 51 | | 3.5 | (30 17 29 | 30 11 2 |
| | MAY . | 4 2 19 | 4 9 4 | | MAY. | 30 6 13 | 29 21 40 |
| | June. | 2 15 3 | 2 23 41 | | JUNE, | 28 18 57 | 28 10 4 |
| | July. | § 2 3 47 | 2 12 20 | | 0 | 13 13 19 | 13 17 10 |
| | SULI. | 31 16 31 | 31 23 10 | | JULY. | 28 7 41 | 28 0 28 |
| | Aug | 30 5 15 | 30 8 54 | | Aug | 26 20 25 | 26 16 85 |
| | 0 | ∫13 23 37 | 13 12 30 | | SEPT, . | 25 9 9 | 25 9 40 |
| | SEPT | 28 17 59 | 28 18 17 | | Oct. | 24 21 53 | 25 2 42 |
| | Oct | 28 6 43 | 28 4 1 | | Nov. | 23 10 37 | 23 18 46 |
| | Nov | 26 19 27 | 26 14 31 | | Dec | 22 23 21 | 23 9 14 |
| | DEC | 26 8 11 | 26 1 57 | | | | |
| 1411 | т | 04 00 50 | 04 #4 00 | | 0 | S 6 17 43 | 6 10 13 |
| 1411. D. | JAN | 24 20 56 | 24 14 23 | 1414. G. | JAN | 21 12 5 | 21 21 47 |
| | Fев | 23 9 40 | 23 3 48 | | FEB | 20 0 49 | 20 8 28 |
| 10 16 55 | O Mar | 10 4 2 | 10 16 58 | 12 10 21 | MAR. | 21 13 33 | 21 17 33 |
| 12 16 55 | APRIL | 24 22 24 | 24 18 15 | | APRIL | 20 2 17 | 20 1 34 |
| | MAY. | 23 11 8 | 23 9 31 | | MAY . | 19 15 1 | 19 9 27 |
| | June. | 22 23 52 21 12 36 | 23 1 7 | | JUNE. | 18 3 45 | 17 18 9 |
| | JULY. | 1 | 21 16 27 | | _ 0 | $\int 2 22 7$ | 3 6 46 |
| | Aug. | | 21 6 51 | | JULY. | 17 16 29 | 17 4 42 |
| | ł | | 19 20 3 | | Aug | 16 5 13 | 15 17 46 |
| | O Sept | 1) 0 0 -0 | 2 18 34 | | SEPT | 14 17 57 | 14 9 29 |
| | Oct. | | 18 8 6 | | Oct | 14 6 41 | 14 3 18 |
| | Nov. | 17 15 32 | 17 19 24 | | Nov. | 12 19 25 | 12 22 0 |
| | DEC. | 16 4 16 | 16 6 20 | | DEC | $\int_{0.7}^{12} 8 9$ | 12 16 8 |
| | JEU. | 15 17 0 | 15 17 12 | | 0 | 27 2 31 | 26 18 36 |
| | | 1 | | 1 | | | |

| Menn Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|---|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1415. | | d. h. m. | d. h. m. | A.D. 1418. | | d. h. m. | d. h. m. |
| F. March. | JAN | 10 20 54 | 11 8 32 | B. March | JAN | 7 12 4 | 7 6 19 |
| d. h. m. | FEB | 9 9 38 | 9 22 23 | March. $d. h. m.$ | FEB | 6 0 48 | 6 0 36 |
| 12 16 10 | MAR | 10 22 22 | 11 9 35 | 12 9 36 | MAR | 7 13 32 | 7 18 50 |
| | APRIL | 9 11 6 | 9 18 80 | | APRIL | 6 2 16 | 6 11 45 |
| | MAY . | 8 23 50 | 9 1 57 | | 0 | 20 20 38 | 20 17 31 |
| | June. | ∫ 7 12 84 | 7 8 51 | | MAY . | 5 15 0 | 6 2 23 |
| | 0 | 122 6 56 | 22 13 25 | | June. | 4 3 44 | 4 14 27 |
| | Juny . | 7 1 18 | 6 16 18 | | JULY. | 3 16 28 | 4 0 17 |
| | Aug | 5 14 2 | 5 1 23 | | | ſ 2 5 12 | 2 8 45 |
| ľ | SEPT | 4 2 46 | 8 13 2 | | Aug | \\ 81 17 56 | 31 16 51 |
| | Oct | 8 15 30 | 3 3 46 | | SEPT | 30 6 40 | 30 1 28 |
| | Nov | 2 4 14 | 1 21 17 | | 0 | (15 1 2 | 15 0 53 |
| | | 1 16 58 | 1 16 81 | | Ост | 29 19 24 | 29 11 20 |
| | DEC | 181 5 42 | 81 11 54 | | Nov | 28 8 8 | 27 22 48 |
| | | | | | DEC | 27 20 52 | 27 12 2 |
| 1416. | JAN | 29 18 27 | 30 5 48 | | | | |
| E.D. | FEB. | 28 7 11 | 28 21 2 | 1419. | JAN | 26 9 37 | 26 2 56 |
| 11 21 59 | MAR. | 28 19 55 | 29 9 11 | Α. | FEB | 24 22 21 | 24 19 7 |
| 11 21 00 | APRIL | 27 8 89 | 27 18 37 | 12 15 25 | MAR | 26 11 5 | 26 11 56 |
| | | 26 21 23 | 27 2 8 | | 0 | ſ10 5 27 | 10 10 5 |
| | MAY. | 25 10 7 | 25 8 48 | | APRIL | 124 23 49 | 25 4 30 |
| | June. | 24 22 51 | 24 15 48 | | MAY . | 24 12 33 | 24 19 55 |
| | July. | 28 11 85 | 22 23 59 | | JUNE . | 23 1 17 | 23 9 37 |
| | Aug | 22 0 19 | 21 10 82 | | JULY. | 22 14 1 | 22 21 29 |
| | SEPT | | | | Aug | 21 2 45 | 21 7 55 |
| | Oct | 21 18 8 | 21 0 1 5 12 48 | | SEPT | 19 15 29 | 19 17 37 |
| | NO. | $\begin{cases} 5 & 7 & 25 \\ 20 & 1 & 47 \end{cases}$ | 19 16 25 | | Ocr | 19 4 13 | 19 3 21 |
| 1 | Nov. | 19 14 81 | 19 10 25 | | Nov | 17 16 57 | 17 13 36 |
| | DEC | 19 14 91 | 19 11 1 | | DEC | 17 5 41 | 17 0 35 |
| 1417. | JAN | 18 8 15 | 18 6 88 | 1420. | JAN. | 15 18 25 | 15 12 23 |
| C, | FEB | 16 15 59 | 17 1 4 | G.F. | FEB | (14 7 9 | 14 1 4 |
| 12 8 48 | MAR. | 18 4 48 | 18 17 27 | | 0 | 129 1 81 | 29 15 9 |
| | APRIL | 16 17 27 | 17 6 52 | 11 21 14 | MAR. | 14 19 53 | 14 14 42 |
| | O | (1 11 49 | 1 4 54 | | APRIL | 13 8 37 | 13 5 18 |
| | MAY . | 16 6 11 | 16 17 28 | | MAY . | 12 21 21 | 12 20 36 |
| | June. | 14 18 55 | 15 1 42 | | JUNE . | 11 10 5 | 11 12 5 |
| | July. | 14 7 89 | 14 8 54 | | JULY. | 10 22 49 | 11 3 6 |
| | Aug | 12 20 23 | 12 16 8 | | Aug. | ſ 9 11 33 | 9 17 6 |
| . 9 (| SEPT. | 11 9 7 | 11 0 10 | | 0 | 24 5 55 | 23 16 50 |
| | Oct. | (10 21 51 | 10 10 6 | | SEPT. | 8 0 17 | 8 5 59 |
| | 0 | 25 16 18 | 25 22 24 | | OUT | 7 13 1 | 7 17 53 |
| | Nov. | 9 10 85 | 8 22 25 | | Nov. | 6 1 45 | 6 5 13 |
| | DEC. | 8 28 19 | 8 13 16 | | DEC. | 5 14 29 | 5 16 14 |
| | | | | | | | |

| Mean Vernal Equitox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--------------------------------------|--|--|---|---|--|---|---|
| A.D. 1421. E. March. d. h. m. 12 3 3 | JAN FEB O MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | d. h. m. 4 3 14 { 2 15 58 {17 10 20 4 4 42 2 17 26 { 2 6 10 31 18 54 30 7 38 29 20 22 {13 14 44 {28 9 6 26 21 50 26 10 34 24 23 18 24 12 2 | d. h. m. 4 3 6 2 13 48 17 21 51 4 0 31 2 11 40 1 23 45 31 13 9 30 3 52 29 19 30 18 7 37 28 11 20 27 2 42 26 17 9 25 6 29 24 18 39 | A.D. 1424. B.A. March. d, h. m. 11 20 29 | JAN FEB. MAR. ; APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | d. h. m. { 1 18 24 | d. h. m. 2 4 46 81 19 58 1 8 25 80 18 16 29 2 18 28 9 9 12 9 29 26 16 7 26 0 15 21 10 83 22 23 48 22 16 5 21 10 48 6 7 50 21 6 18 |
| 1422. D. 12 8 52 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | 23 0 47 { 6 19 9 {21 18 31 23 2 15 21 14 59 21 3 48 19 16 27 19 5 11 { 2 28 38 {17 17 55 16 6 39 15 19 28 14 8 7 18 20 51 | 28 5 40 6 22 13 21 15 37 28 0 52 21 9 57 20 19 43 19 7 1 18 20 21 3 0 40 17 11 45 16 4 40 15 22 4 14 14 59 14 6 30 | 1425. c. 12 2 18 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | 19 15 57 18 4 41 19 17 25 18 6 9 17 18 58 { 1 18 15 16 7 87 15 20 21 14 9 5 12 21 49 12 10 88 { 10 28 17 25 17 89 10 12 1 | 20 1 8 18 17 46 20 7 28 18 18 1 18 2 18 1 10 8 16 9 14 15 15 55 18 28 28 12 8 52 11 20 54 10 11 55 25 28 8 10 5 81 |
| 1423. c. 12 14 41 | Jan Feb Mar Affil May . June . July . Aug Sept Ocr Nov | 12 9 35 10 22 19 12 11 3 10 28 47 10 12 81 9 1 15 8 13 59 7 2 48 5 15 27 5 4 11 3 16 55 { 3 5 39 { 18 0 1 | 12 20 6 11 7 38 12 17 17 11 1 85 10 9 15 8 17 15 8 2 40 6 14 24 5 4 53 4 21 55 3 16 80 3 11 16 17 16 45 | 1426. F. 12 8 7 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov DEC | 9 0 45 7 18 29 9 2 18 7 14 57 { 7 8 41 } 21 22 8 5 16 25 5 5 9 8 17 58 2 6 87 { 1 19 21 } 31 8 5 29 20 49 29 9 88 | 9 0 48 7 19 50 9 18 21 8 4 12 7 16 5 21 14 12 6 1 24 5 9 6 8 16 15 1 28 54 1 9 0 80 20 10 29 9 46 29 1 42 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|--|--|--|---|---|---|
| A.D. 1427. E. March. d. h. m. 12 18 56 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 27 22 18 26 11 2 27 23 46 {11 18 8 26 12 30 26 1 14 24 13 58 24 2 42 22 15 26 21 4 10 20 16 54 19 5 38 18 18 22 | d. h. m. 27 19 19 26 13 33 28 7 5 11 17 15 26 22 50 26 12 10 24 23 8 24 8 19 22 16 40 21 1 9 20 10 30 18 21 14 18 9 33 | A.D. 1430. A. March. d. h. m. 12 7 22 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | d. h. m. 24 13 28 23 2 12 24 14 56 23 3 40 22 16 24 21 5 8 20 17 52 19 6 36 { 8 0 58 17 19 20 17 8 4 15 20 48 15 9 32 | d. h. m. 24 12 52 22 23 20 24 9 55 22 21 11 22 9 40 20 23 37 20 14 52 19 6 51 2 15 39 17 22 47 17 14 3 16 4 14 15 17 7 |
| 1428. p.c. 11 19 45 | Jan Feb Mar O April May . June . July . Aug Sept O Oct Nov Dec | 17 7 6 15 19 50 {16 8 84 81 2 56 14 21 18 14 10 2 12 22 46 12 11 80 11 0 14 { 9 12 58 24 7 20 9 1 42 7 14 26 7 8 10 | 16 28 29 15 14 50 16 7 9 81 10 2 14 23 48 14 15 41 18 6 19 12 19 12 11 6 80 9 16 44 28 19 58 9 2 88 7 12 46 6 28 27 | 1431. e. 12 18 11 | JAN FEB MAR APRIL MAY . JUNE . O AUG SEPT OCT Nov DEC | 18 22 16 12 11 0 18 28 44 12 12 28 12 1 12 10 18 56 {10 2 40 24 21 2 8 15 24 7 4 8 6 16 52 5 5 86 4 18 20 | 14 4 44 12 15 4 14 0 25 12 9 5 11 18 20 10 4 35 9 16 45 25 0 86 8 7 10 6 23 83 6 17 5 5 10 38 5 3 8 |
| 1429. B. 12 1 84 | Jan Fre Mar O April May . June . July . Aug O Sept Oct Nov Dec | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 81 13 89 80 8 21 13 2 15 28 16 1 28 8 52 26 15 12 | 1432. F.E. | JAN. O FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | 26 12 57 25 1 41 24 14 25 | \[\begin{array}{cccccccccccccccccccccccccccccccccccc |

| Month Moon | | | | | | | | |
|--|----------|--------|-----------|----------|---------|--------|-----------|------------------------------|
| 1438. | Vernal | Month. | Moon. | Moon. | Vernal | Month. | Moon. | True New Moon.)(O Full Ecl. |
| D. O | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| March. d. h. m. 12 0 49 March. d. h. m. 12 0 49 March. d. h. m. 12 0 49 March. March. 12 0 49 May. 19 7 84 19 18 50 20 2 19 May. 19 7 84 19 19 8 50 20 2 19 May. 19 7 84 19 19 8 50 20 2 19 May. 19 7 84 19 9 82 June. 17 20 18 May. 19 7 84 19 18 50 20 2 19 May. 19 7 84 19 9 82 June. 17 20 18 May. 19 17 8 16 O | | | (6 10 15 | 6 3 19 | | JAN | 18 19 48 | 18 14 24 |
| March A. h. m. Feb. 19 17 22 20 6 89 | | | 21 4 38 | 21 16 52 | | FEB | 17 8 32 | 17 8 16 |
| 12 0 49 Mar. 21 6 6 2 11 7 88 APRIL 10 10 0 0 16 18 8 4 | | FEB | 19 17 22 | 20 6 39 | | MAR | 17 21 16 | 18 2 5 |
| MAY . 19 7 84 19 9 32 June . 17 20 18 17 16 16 O (2 14 40 2 20 1) July . 17 9 2 16 23 40 Aug 15 21 46 15 8 47 Sept 14 10 30 13 20 34 Oct 13 23 14 13 11 27 Nov 12 11 58 12 5 8 Dec 12 0 42 12 0 28 1434. c. Feb 9 2 10 9 18 54 Dec 10 14 54 11 450 April 9 8 88 9 16 51 MAY . 10 14 54 11 450 April 6 17 Aug 5 6 34 4 23 18 Sept 3 19 18 3 7 46 Oct 3 8 2 18 82 Nov 1 20 46 1 8 6 Dec 3 8 2 18 82 Nov 1 20 46 1 8 6 Dec 3 8 2 2 18 82 Nov 1 20 46 1 8 6 Dec 3 8 2 2 18 82 Nov 1 20 46 1 8 6 Dec 3 8 2 2 18 82 Nov 1 20 46 1 8 6 Dec 3 8 2 2 18 82 Nov 1 20 46 1 8 6 Dec 3 8 2 2 18 82 Nov 1 20 46 1 8 6 Dec 3 8 2 2 18 82 Nov 1 20 46 1 8 6 Dec 27 28 43 28 8 88 12 12 27 April 28 11 12 24 80 April 29 12 27 30 0 47 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 12 27 April 29 10 59 29 14 17 Feb 27 28 43 28 8 88 12 10 0ct 22 5 35 April 30 0 47 April 29 10 59 29 29 14 17 Feb 27 28 43 28 8 88 April 29 10 59 29 29 28 April 29 10 59 29 29 28 April 29 10 59 29 29 29 28 April 29 10 59 29 29 29 28 April 29 10 59 29 29 29 29 29 29 29 29 29 29 29 29 29 | | MAR. | 21 6 6 | 21 17 38 | | APRIL | 16 10 0 | 16 18 41 |
| JUNE . 17 20 18 17 16 16 O | | APRIL | 19 18 50 | 20 2 19 | | 0 | (1 4 22 | 1 1 8 |
| 1434. C. Feb. 9 2 10 14 20 20 1 14 14 17 15 16 18 18 18 18 19 19 18 18 | | MAY . | 19 7 34 | 19 9 32 | | MAY. | 15 22 44 | 16 9 14 |
| JULY . \ | | JUNE . | 17 20 18 | 17 16 16 | | June. | 14 11 28 | 14 21 24 |
| Aug. 15 21 46 15 8 47 Sept. 14 10 30 13 20 34 Oct. 13 28 14 13 11 27 Nov. 12 11 58 12 5 8 Dec. 12 0 42 12 0 28 1434. c. Feb. 9 2 10 9 18 54 April 9 3 88 9 16 51 May 8 16 22 9 2 8 June 7 5 6 7 9 85 July 617 50 6 16 17 Aug. 5 6 34 4 23 18 Sept. 3 19 18 3 7 46 Oct. 3 8 8 2 2 18 32 Nov. 1 20 46 1 8 6 Dec. 1 20 46 1 8 6 Dec. 1 20 46 1 8 6 Dec. 1 20 46 1 8 6 Dec. 1 20 27 8 30 0 47 April 28 1 11 28 14 6 O 12 19 38 12 12 4 May 29 12 7 30 0 47 April 28 1 11 28 14 6 O 12 19 38 12 12 4 May 26 2 39 26 9 2 July 25 15 28 25 16 25 Aug. 24 4 7 28 28 52 Sept. 2 26 58 7 6 6 8 31 O 15 25 8 7 6 6 8 31 O 15 25 8 7 6 6 8 31 Oct. 11 1 40 11 0 0 0 Oct. 10 14 24 10 9 56 Oct. 12 14 24 10 9 56 Oct. 12 14 24 10 9 56 Oct. 12 14 24 10 9 56 Oct. 12 0 48 11 27 June 16 17 50 6 6 16 17 Aug. 5 6 34 4 23 18 Sept. 3 19 18 3 7 46 Oct. 3 8 2 2 18 32 Nov. 1 20 46 1 8 6 Dec. 27 18 24 27 9 86 1435. B. Feb. 27 28 43 28 8 88 12 12 12 27 April 28 1 11 28 14 6 O 12 19 38 12 12 4 May 24 5 5 24 8 9 15 12 12 4 May 24 5 5 24 8 8 9 15 16 25 Aug. 24 4 7 28 28 25 25 Aug. 25 15 28 25 16 25 Aug. 25 15 28 25 16 25 Aug. 26 29 26 9 2 July 25 15 28 25 16 25 Aug. 26 27 8 19 21 18 81 Oct. 26 28 9 26 6 56 Nov. 1 20 6 56 Nov. 1 20 6 56 Nov. 1 20 6 18 19 20 6 56 Nov. 1 20 19 17 21 0 12 Sept. 19 8 1 19 18 89 Oct. 20 7 8 19 21 41 Dec. 10 14 24 10 9 56 Oct. 10 14 24 10 0 9 56 Oct. 12 10 14 24 10 0 9 56 Oct. 12 11 14 14 15 0 Oct. 12 11 14 14 15 0 Oct. 13 14 14 15 0 Oct. 14 14 14 15 0 Oct. 15 28 57 6 6 8 31 Oct. 20 19 17 21 0 12 Oct. 18 19 20 6 56 Nov. 19 8 8 8 20 Dec. 18 10 0 25 11 1 Oct. 20 19 17 21 0 12 Oct. 18 19 20 6 56 Nov. 19 8 1 19 18 89 Oct. 20 19 17 21 0 12 Oct. 18 19 20 6 56 Nov. 17 9 29 17 18 58 | | 0 | (2 14 40 | 2 20 1 | | JULY. | 14 0 12 | 14 7 81 |
| Sept. 14 10 80 13 20 84 Oct. 10 14 24 10 9 5 | | JULY . | 17 9 2 | 16 23 40 | | Aug | 12 12 56 | 12 16 21 |
| Oct. 18 28 14 18 11 27 Nov. 12 11 58 12 5 8 DEC. 12 0 42 12 0 28 1434. C. Feb. 9 2 10 9 18 54 12 6 38 MAR. 10 14 54 11 4 50 APRIL 9 3 38 9 16 51 MAY 8 16 22 9 2 8 JULY 6 17 50 6 16 17 AUG. 5 6 34 4 23 18 Sept. 3 19 18 3 7 46 Oct. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 1 20 46 18 6 Dec. 2 14 30 19 1 1435. B. 12 12 27 MAR. 29 12 27 30 0 47 April 28 111 28 14 6 O (12 19 38) 12 12 4 MAY . 25 15 28 0 37 JUNE . 26 2 39 26 9 2 JULY . 25 15 28 AUG. 24 4 7 28 28 35 AUG. 24 4 7 28 28 35 Nov 22 6 6 81 Nov 22 6 8 87 Dec. 20 7 8 19 21 41 | | Aug | 15 21 46 | 15 8 47 | | SEPT | 11 1 40 | 11 0 52 |
| Nov 12 11 58 | | SEPT | 14 10 30 | 13 20 34 | | Oct | 10 14 24 | 10 9 55 |
| 1434. Jan. 10 18 26 10 19 55 1437. Jan. 7 4 36 6 20 8 Feb. 9 2 10 9 18 54 F. Feb. 5 17 20 5 11 12 6 38 Mar. 10 14 54 11 4 50 APRIL 5 18 48 5 18 5 5 18 5 5 17 20 5 11 12 6 17 50 6 16 17 Aug. 5 6 34 4 23 18 Sept. 3 19 18 3 7 46 Oct. 3 8 2 2 18 32 Nov. 1 20 46 1 8 6 Oct. 3 8 2 2 18 32 Nov. 1 20 46 1 8 6 Oct. 29 10 59 29 14 17 Feb. 27 28 48 28 8 38 12 12 27 APRIL 28 1 11 28 14 6 Oct. 29 11 55 28 0 37 June 26 2 39 26 9 2 July 25 15 28 25 16 25 Aug. 24 4 7 28 28 52 Sept. 22 16 51 22 8 19 Oct. 22 5 35 21 18 31 Oct. 22 6 38 22 9 44 Aug. 22 17 49 22 18 81 Oct. 22 5 35 21 18 31 Oct. 22 6 38 22 9 44 Aug. 22 17 49 22 18 81 Oct. 22 5 35 21 18 31 Oct. 22 6 38 22 9 44 Aug. 22 17 49 22 18 81 Oct. 22 5 35 21 18 31 Oct. 22 6 38 22 9 44 Aug. 20 19 17 21 0 12 Oct. 20 7 8 19 21 41 Oct. 17 9 29 17 18 58 Oct. 20 7 8 19 21 41 Oct. 17 9 29 17 18 58 Oct. 20 7 8 19 21 41 Oct. 17 9 29 17 18 58 Oct. 20 7 8 19 21 41 Oct. 17 9 29 17 18 58 Oct. 20 7 8 19 21 41 | | Oct | 13 23 14 | 13 11 27 | | 0 | 25 8 46 | 25 8 82 |
| 1434. Jan 10 18 26 10 19 55 | | Nov | 12 11 58 | 12 5 8 | | Nov | 9 8 8 | 8 20 8 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
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| A.D. 1439. | JAN. | d. h. m. 15 10 58 | d. h. m. | A.D. 1442. G. | | d. h. m. | d. h. m. |
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| | 0 | 24 22 28 | 24 15 26 | | SEPT. | 5 7 59 | 4 18 5 |
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| | Oct | 8 5 84 | 8 10 24 | | Nov. | 8 9 27 | 2 28 54 |
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| 1440. | T | 4 40 40 | | | | (1 10 56 | 1 14 17 |
| C.B. | JAN | 4 19 46 | 5 8 81 | 1443. | JAN | 80 28 40 | 81 9 4 |
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| | JUNE . | 80 0 10 | 29 18 50 | | 0 | (12 20 58 | 12 16 89 |
| | July . | 29 12 54 | 29 8 4 | | June . | 27 15 20 | 27 16 40 |
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| 1. 50 | APRIL | 21 7 81 | 21 9 24 | 11 16 46 | MAR | 19 9 57 | 19 20 42 |
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| A.D. 1445. | | d. h. m. | d. h. m. | A.D. 1448. | | d. h. m. | d. h. m. |
| C. | Jan | 8 17 17 | 8 9 57 | G.F. | JAN | 6 8 27 | 6 11 7 |
| March. | FEB. | 7 6 1 | 7 3 8 | d. $h.$ $m.$ | FEB | 4 21 11 | 4 21 85 |
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| 1446. B. | JAN | 26 3 34 | 25 22 38 | 1449. | JAN. | 21 6 0 | 24 18 81 |
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| 1452. 1AR. 21 21 10 22 3 50 E. 13 15 16 16 16 19 6 17 14 16 19 6 18 11 15 16 18 11 12 20 0 21 18 11 12 17 1 2 82 17 1 50 17 16 59 17 16 59 17 15 14 18 15 17 2 17 1 14 16 14 14 14 14 14 14 14 15 15 16 16 17 14 18 15 16 18 15 16 16 17 14 18 15 16 18 16 18 2 41 18 15 16 18 16 18 2 41 18 15 16 18 16 18 2 41 18 15 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 2 41 18 16 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 16 18 16 17 44 18 16 18 18 18 18 10 7 18 16 18 18 18 18 10 7 18 16 18 18 18 18 10 7 18 16 18 18 18 18 18 10 7 18 16 18 18 18 18 18 10 7 18 16 18 18 18 18 18 10 7 18 16 18 18 18 18 18 10 7 18 16 18 18 18 18 18 10 7 18 16 18 18 18 18 18 10 7 18 16 18 18 18 18 18 10 7 18 16 18 18 18 18 18 18 18 10 18 18 18 18 18 10 18 18 18 18 18 18 18 10 18 18 18 18 18 18 18 18 18 18 18 18 18 | | DEC | 25 8 25 | 23 8 26 | | İ | | |
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| Aug. 15 14 18 15 7 2 Sept. 14 8 2 13 15 48 Oct. 18 15 46 18 2 41 Nov. 12 4 80 11 16 23 Dec. 11 17 14 11 8 44 1453. G. 11 21 5 MAR. 10 7 27 10 16 2 April 8 20 11 9 7 59 MAY . 8 8 55 8 21 18 Oct. 11 14 82 14 14 82 Aug. 10 6 10 28 6 16 23 Aug. 10 16 2 19 10 June 6 21 89 7 7 46 July 6 10 28 6 16 23 Aug. 10 16 2 19 10 Aug. 18 5 28 18 11 48 Sept. 11 18 12 11 28 18 Oct. 11 18 12 11 28 18 Oct. 9 8 24 9 7 27 14 56. Jan. 7 21 8 7 18 24 Feb. 6 9 52 6 5 86 April 8 20 11 14 82 Mar. 6 22 36 6 6.17 18 Oct. 11 14 82 Mar. 6 22 36 6 6.17 18 Oct. 11 14 82 Nov. 6 21 89 7 7 46 July 6 10 28 6 16 23 Aug. 1 2 16 57 Nov. 8 11 51 6 14 42 Sept. 2 16 87 Nov. 8 11 51 6 14 42 Sept. 2 29 15 44 Sept. 11 18 12 Oct. 11 6 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 10 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 10 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 10 40 9 20 44 Dec. 9 8 24 9 7 27 Nov. 9 19 40 9 20 44 Dec. 9 10 40 9 20 44 Dec. 9 10 40 9 20 44 Dec. 11 16 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 9 10 40 9 20 44 Dec. 11 14 6 11 10 7 Nov. 9 19 40 9 20 44 Dec. 11 16 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 11 14 6 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 11 14 6 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 11 14 6 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 11 14 6 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 11 14 6 56 11 10 7 Nov. 9 19 40 9 20 44 Dec. 11 14 6 51 11 14 82 Nov. 9 19 40 9 20 44 Dec. 10 10 10 10 10 10 10 10 10 10 10 10 10 | | | | | | | | |
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| MAY . \ \ 8 8 55 8 21 18 \ \ \text{O} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 11 21 5 | | | | | | | 6 5 36 |
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| Sept. | | | | | | June . | 8 12 48 | 8. 9 41 |
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| O 16 7 41 16 14 42 80 15 82 Nov 27 17 12 27 22 45 DEC 27 5 56 27 10 9 | | i | | 2 16 87 | | AGLUCES . | (81 8 0 | 81 7 22 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------|---|----------------------------|---------|---|------------------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| 1457. в. | _ | | | 1460. F.E. | | (8 15 29 | 8 10 25 |
| ъ. | JAN. | 25 18 41 | 25 20 49 24 6 51 | | JAN | 128 9 51 | 23 21 12 |
| March. | FEB | 24 7 25 | 24 6 51 11 13 0 | March. $d. h. m.$ | FEB | 21 22 85 | 22 12 19 |
| d. h. m. | Mar | 11 1 47 | 25 16 33 | 11 13 47 | MAR | 22 11 19 | 28 0 25 |
| 11 20 21 | APRIL | 24 8 53 | 24 2 35 | | APRIL | 21 0 8 | 21 9 50 |
| | MAY . | 23 21 37 | 23 13 39 | | MAY . | 20 12 47 | 20 17 22 |
| | JUNE . | 22 10 21 | 22 2 23 | | June . | 19 1 81 | 19 0 8 |
| | JULY . | 21 23 5 | 21 16 56 | | 0 | f 8 19 58 | 8 22 28 |
| | Aug. | 20 11 49 | 20 8 56 | | JULY . | 18 14 15 | 18 6 57 |
| | 0 | (4 6 11 | 3 23 21 | | Aug | 17 2 59 | 16 15 18 |
| | SEPT. | 19 0 33 | 19 1 39 | | SEPT | 15 15 48 | 15 1 47 |
| | Oct | 18 13 17 | 18 18 12 | | Ост | 15 4 27 | 14 15 20 |
| | Nov. | 17 2 1 | 17 9 47 | | Nov | 18 17 11 | 18 7 53 |
| | DEC | 16 14 45 | 16 23 53 | | DEC | 118 5 55 | 18 2 88 |
| | | 20 22 20 | 20 20 00 | | 0 | 128 0 17 | 28 1 47 |
| 1458. | JAN | 15 3 29 | 15 12 18 | 1461. | JAN | 11 18 40 | 11 22 12 |
| Α. | FEB | (13 16 14 | 13 23 3 | D. | FEB | 10 7 24 | 10 16 51 |
| | 0 | 28 10 36 | 28 13 15 | 11 19 36 | MAR | 11 20 8 | 12 9 11 |
| 12 2 9 | MAR | 15 4 58 | 15 8 20 | | APRIL | 10 8 52 | 10 22 82 |
| | APRIL | 13 17 42 | 13 16 41 | | MAY . | 9 21 86 | 10 8 55 |
| | MAY . | 13 6 26 | 13 0 52 | | JUNE . | § 8 10 20 | 8 17 6 |
| | June . | 11 19 10 | 11 9 53 | | _ 0 | 128 4 42 | 22 28 19 |
| | JULY. | 11 7 54 | 10 20 42 | | JULY. | 7 28 4 | 8 0 8 |
| | Aug | § 9 20 38 | 9 9 55 | | Aug | 6 11 48 | 6 7 7 |
| ì | 0 | 24 15 0 | 24 16 6 | | SEPT | 5 0 82 | 4 15 7 |
| | SEPT | 8 9 22 | 8 1 39 | | Oct | 4 18 16 | 4 0 58 |
| | Oct | 7 22 6 | 7 19 15 | | Nov | 8 2 0 | 2 18 20 |
| | Nov | 6 10 50 | 6 13 39 | | Dec. O | $\begin{cases} 2 & 14 & 44 \\ 17 & 9 & 6 \end{cases}$ | 2 4 23 17 16 47 |
| | DEC | 5 23 34 | 6 7 26 | | | (| 81 21 45 |
| 1459. | Jan | 4 12 18 | 4.00.01 | 1462. | JAN | 1 8 28 | |
| G. | FEB. | 3 1 2 | 4 23 31 3 13 14 | C. | OAR | 180 16 12 | 80 16 28 |
| 12 7 58 | MAR. | 4 13 46 | | | FEB | | |
| | APRIL | 3 2 30 | 5 0 26 3 9 29 | 12 1 25 | MAR | [1 4 56 | 1 10 52 |
| | MAY. | 2 15 14 | | | ATLANT. | 80 17 40 | 81 8 58 |
| | _ | (1 3 58 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | APRIL | 29 6 24 | 29 18 27 |
| | JUNE. | 30 16 42 | 30 7 44 | | MAY . | 28 19 8 | 29 6 18 |
| | JULY . | 30 5 26 | 29 16 58 | | _ 0 | [12 18 80] | 12 4 2 |
| | Aug | 28 18 10 | 28 4 45 | | JUNE . | 27 7 52 | 27 15 51 |
| | SEPT | 27 6 54 | 26 19 31 | | JULY. | 26 20 86 | 26 28 59 |
| | Ост. | 26 19 38 | 26 13 2 | | AUG | 25 9 20 | 25 7 47 |
| | Nov | 25 8 22 | 25 8 12 | | SEPT | 23 22 4 | 28 16 8 |
| | DEC. | 24.21 6 | 25 3 26 | | Oct | 23 10 48 | 28 1 52 |
| | | | - 5 20 | 4 | Nov. | 21 23 32 | 21 18 21 |
| | | | | D. I | DEC | 21 12 16 | 21 2 50 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl. |
|----------------------------|--------|----------------------|------------------------------|----------------------------|---------------|------------------------------------|-----------------------------------|
| A.D. 1463. | | d. h. m. | d. h. m. | A.D. 1466. | | d. h. m. | d. h. m. |
| В. | JAN | 20 1 1 | 19 18 10 | E. | T. 37 | 10 10 11 | |
| March. $d. h. m.$ | FEB | 18 13 45 | 18 10 52 | March. | JAN FEB | 16 16 11 | 16 20 2 |
| 12 7 14 | MAR. | 20 2 29 | 20 4 6 | d. h. m. 12 0 40 | MAR. | 15 4 55 | 15 6 12 |
| | APRIL | 18 15 13 | 18 20 55 | 12 0 40 | 1 | 16 17 39 | 16 15 47 |
| | MAY. | 18 8 57 | 18 12 21 | | APRIL MAY. | 15 6 23 | 15 1 17 |
| | JUNE. | 16 16 41 | 17 1 48 | | | 14 19 7 | 14 11 30 |
| | JULY. | 16 5 25 | 16 13 17 | | JUNE . | 13 7 51 | 12 23 10 |
| | Aug. | 14 18 9 | 14 23 15 | | JULY. | 12 20 33 | 12 12 45 |
| 11 1 9 | SEPT | 13 6 53 | 13 8 32 | | Aug | 11 9 19 | 11 4 9 |
| | Oct | 12 19 87 | 12 17 54 | | SEPT | 9 22 3 | 9 20 48 |
| | Nov | 11 8 21 | 11 8 56 | | 0 | 24 16 25 | 24 7 49 |
| | DEC | 10 21 5 | 10 14 55 | | Oct | 9 10 47 | 9 13 48 |
| , and the second | | | 10 11 00 | | Nov. | 7 23 31 | 8 6 14 |
| 1464. | T | 0 0 50 | | | Dec | 7 12 15 | 7 21 20 |
| A.G. | JAN | 9 9 50 | 9 3 0 | | | | |
| 11 18 2 | FEB. | 7 22 31 | 7 16 7 | 1467. | JAN | 6 0 59 | 6 10 42 |
| 11 10 2 | MAR. | 8 11 18 | 8 6 19 | D. | FEB | 4 13 43 | 4 22 12 |
| | APRIL | 7 0 2 | 6 21 27 | 12 6 29 | MAR | 6 2 27 | 6 8 1 |
| | MAY. | (21 18 24 | 22 1 44 | | APRIL | 4 15 11 | 4 16 33 |
| | | 6 12 46 | 6 13 8 | <u> </u> | MAY. | 4 3 55 | 4 0 29 |
| | June . | 5 1 80 | 5 4 48 | | JUNE. | 2 16 39 | 2 8 48 |
| | July. | 4 14 14 | 4 19 32 | | JULY. | § 2 5 23 | 1 18 30 |
| | Aug. | 8 2 58 | 8 9 8 | | | (31 18 7 | 31 6 26 |
| | SEPT | 1 15 42 | 1 21 27 | | 0 | §15 12 29 | 15 15 45 |
| | O O | (| 1 8 50 | | Aug | (30 6 51 | 29 21 0 |
| | Oct. O | 15 22 48 80 17 10 | 15 11 8 | | SEPT | 28 19 35 | 28 13 54 |
| | NT | | 80 19 45 | | Oct | 28 8 19 | 28 8 16 |
| | Nov. | 29 5 54 | 29 6 82 | | Nov | 26 21 3 | 27 2 43 |
| | DEC | 28 18 88 | 28 17 28 | | DEC | 26 9 47 | 26 19 55 |
| 1465. | JAN | 27 7 22 | 27 4 19 | 1468. | JAN | 24 22 32 | 25 10 55 |
| F. | Гкв | 25 20 6 | 25 15 27 | C.B. | 0 | 8 16 54 | 8 10 44 |
| 11 18 51 | MAR | 27 8 50 | 27 8 7 | | FEB | 23 11 16 | 23 23 17 |
| | 0 | 511 8 12 | 11 16 19 | 11 12 18 | MAR | 24 0 0 | 24 9 18 |
| 1 | APRIL | 25 21 84 | 25 15 44 | | APRIL | 22 12 44 | 22 17 17 |
| | MAY . | 25 10 18 | 25 5 38 | | MAY . | 22 1 28 | 22 0 23 |
| | June . | 28 28 2 | 28 20 29 | | June . | 20 14 12 | 20 7 29 |
| | July. | 28 11 46 | 28 12 0 | | JULY. | 20 2 56 | 19 15 48 |
| | Aug | 22 0 80 | 22 8 27 | | 0 | 5 3 21 18 | 4 4 5 |
| | SEPT | 20 18 14 | 20 18 18 | | Aug | (18 15 40 | 18 2 9 |
| | 0 | 5 7 86 | 4 18 6 | | SEPT | 17 4 24 | 16 15 29 |
| | | 20 1 58 | 20 8 12 | | Oct | 16 17 8 | 16 7 49 |
| | Nov | 18 14 42 | 18 21 4 | | Nov | 15 5 52 | 15 2 25 |
| | DEC | 18 8 26 | 18 9 1 | | | 1 | |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|----------------|--------|----------------|------------------------------|----------------------------|-----------|-----------------------------|---------------------|
| Equinox. | | | | | | | |
| A.D. 1409. | | d. h. m. | d. h. m. | A.D. 1472. | | d. h. m. | d. h. m. |
| Δ. | JAN | ∫13 7 21 | 13 16 38 | к.D. March. | JAN | 10 22 31 | 10 14 80 |
| Manch | 0 | 28 1 43 | 27 20 39 | d. h. m. | FEB | 9 11 15 | 9 6 21 |
| d. h. m. | FEB | 11 20 5 | 12 9 9 | 11 11 33 | MAR | 9 28 59 | 9 28 10 |
| 11 18 6 | MAR | 13 8 49. | 13 22 41 | | APRIL | 8 12 48 | 8 16 5 |
| | APRIL | 11 21 33 | 12 9 17 | | MAY . | 8 1 27 | 8 8 11 |
| | MAY. | 11 10 17 | 11 17 33 | | 0 | 22 19 49 | 22 16 6 |
| | JUNE. | 9 23 1 | 10 0 29 | | JUNE . | 6 14 11 | 6 22 40 |
| | JULY. | 9 11 45 | 9 7 8 | | JULY. | 6 2 55 | 6 11 14 |
| | 0 | 24 6 7 | 24 9 16 | | Aug | 4 15 89 | 4 22 5 |
| | Aug | 8 0 29 | 7 14 39 | | SEPT | 8 4 28 | 8 7 50 |
| | SEPT | 6 13 13 | 6 0 3 | | Ocr | 2 17 7 | 2 17 19 |
| | •Ост | 6 1 57 | 5 12 8 | | | (1 5 51 | 1 3 10 |
| | Nov | 4 14 41 | 4 3 16 | | Nov. O | 16 0 18 | 16 0 6 |
| | DEC | 4 3 25 | 3 21 5 | | | (80 18 85 | 80 18 45 |
| | | | | i ' | DEC | 80 7 19 | 80 1 15 |
| 1470. | JAN | § 2 16 9 | 2 16 23 | | | | |
| G. | 0 | (17 10 31 | 17 11 35 | 1473. | JAN | 28 20 8 | 28 18 89 |
| | FEB | 1 4 53 | 1 11 37 | c. | FEB. | 27 8 47 | 27 8 2 |
| 11 23 55 | MAR | 2 17 37 | 3 5 9 | 11 17 22 | MAR. | 28 21 81 | 28 17 26 |
| | APRIL | § 1 6 21 | 1 19 58 | | APRIL | 27 10 15 | 27 8 88 |
| | | (30 19 5 | (1 7 42 | | | (12 4 87 | 12 9 12 |
| | MAY. | 30 7 49 | [30 16 52] | | O May. | 26 22 59 | 27 0 18 |
| [| June. | 28 20 33 | 29 0 23 | | JUNE. | 25 11 48 | |
| 1 | JULY. | 28 9 17 | 28 7 21 | | JULY. | 25 0 27 | |
| | Aug | 26 22 1 | 26 14 50 | | A.ug | 28 18 11 | 25 5 52 28 19 5 |
| | SEPT | 25 10 45 | 24 23 48 | | SEPT. | 22 1 55 | |
| 4 | Ост. | 24 23 29 | 24 10 59 | | Oct | 21 14 89 | |
| 1 | Nov | 23 12 13 | 23 0 44 | | | (5 9 1 | 21 18 82 4 28 89 |
| | Dec | 23 0 57 | 22 16 57 | | Nov. | 20 8 28 | 20 5 88 |
| 1471. | JAN | 21 13 42 | 01 10 57 | | DEC. | 19 16 7 | |
| P. | FEB. | 20 2 26 | 21 10 57 20 5 81 | | | 10 10 / | 19 16 26 |
| 12 5 44 | MAR. | 21 15 10 | 20 5 31 21 23 14 | 1474. | T | | |
| | APRIL | 20 3 54 | | B. | JAN | 18 4 52 | 18 8 15 |
| | MAY. | 19 16 38 | 20 15 1 20 4 12 | 11 23 11 | FEB. | 16 17 86 | 16 14 4 |
| | 0 | (3110 | 3 2 13 | -1 40 II | MAR. | 18 6 20 | 18 1 8 |
| | JUNE . | 18 5 22 | 18 14 52 | | APRIL | 16 19 4 | 16 12 56 |
| | JULY. | 17 18 6 | 17 23 43 | | MAY . | 16 7 48 | 16 1 58 |
| | Aug | 16 6 50 | 16 7 45 | | JUNE. | 14 20 32 | 14 16 10 |
| | SEPT. | 14 19 31 | 14 15 54 | | JULY. | 14 9 16 | 14 7 26 |
| | Oct | 14 8 18 | 14 1 3 | | AUG. | 12 22 0 | 12 23 10 |
| 1 | Nov | (12 21 2 | 12 11 43 | | SEPT | 11 10 44 | 11 14 40 |
| | 0 | 27 15 24 | 27 22 56 | | Ocr. | 10 28 28 | 11 5 21 |
| | DEC. | 12 9 46 | 12 0 12 | | Nov. | 9 12 12 | 9 19 0 |
| | | | 0 12 | | DEC | 9 0 56 | 9 7 83 |
| | | | - 14 | | | | ŀ |

| Mean Verral Equitox. | Month. | | True New M -on. () Full Ecl.) | Mean Vernal Equinox, | Month. | Mean New Moon. (O Full Ecl.) | True New Moon, (O Full Ecl.) |
|--|----------------------------------|------------|-------------------------------------|----------------------------|-------------|------------------------------------|------------------------------------|
| A.D. 1475. | • → 1 w/s 800 th profit littles. | d. h. m. | d. h. m. | A.D. 1478. | | d. h. m. | đ. h. m. |
| March. | JAR | 7 13 41 | 7 19 5 | D. | JAN | [4 4 51 | 4 11 29 |
| d. h. m. | Fan | 6 2 25 | 6 5 84 | Manual | 0 | 18 28 18 | 18 19 18 |
| 12 4 59 | MAR. | f 7 15 9 | 7 15 12 | March. | FEB | 2 17 85 | 8 5 14 |
| | O | A22 9 81 | 22 20 21 | 11 22 26 | MAR. | 4 6 19 | 4 20 15 |
| | Armit. | 6 8 58 | 6 0 28 | | APRIL. | 2 19 8 | 8 8 11 |
| | Mar . | 5 16 37 | 5 9 55 | | MAY. | 1 2 7 47 | 2 17 26 |
| | JUNK. | 4 5 21 | 8 20 84 | | MAKE . | 81 20 81 | (1 0 51 |
| | Jun. | 8 18 5 | 8 9 2 | | JUNE. | 80 9 15 | 80 7 80 |
| | Ara | 1 2 8 49 | 1 28 81 | | 0 | 15 8 87 | 15 5 0 |
| | | 181 18 181 | 81 15 50 | | July. | 129 21 59 | 29 14 80 |
| | 12 | 15 18 55 | 15 7 28 | | Ava. | 28 10 48 | 27 22 54 |
| | SEPT. | 180 B 17 | 80 9 2 | | SEPT | 26 28 27 | 26 9 40 |
| | Ocr. , | 29 21 1 | 80 2 6 | | Ocr | 26 12 11 | 25 28 22 |
| | Nov. | 28 9 45 | 28 18 11 | | Nov | 25 0 55 | 21 15 56 |
| | DEC | 27 22 29 | 28 8 85 | | DEC | 24 18 89 | 24 10 89 |
| da da da da da da da da da da da da da d | | | | | 0 | 1881 | 8 10 44 |
| 1476. | JAN | 26 11 18 | 26 21 2 | 1479. | Ј лк | 28 2 28 | 28 6 2 |
| u.r. | Fan | 24 23 57 | 25 7 82 | c. | FEB | 21 15 7 | 22 0 29 |
| 1 | 0 | (10 18 19 | 10 20 81 | 12 4 15 | MAR | 28 8 51 | 28 16 89 |
| 11 10 48 | MAR. | 125 12 41 | 25 16 26 | | APRIL. | 21 16 85 | 22 5 51 |
| | Armi. | 24 1 25 | 24 0 24 | | MAY. | 21 5 19 | 21 16 12 |
| | MAY . | 23 14 9 | 28 8 18 | | JUNE . | 19 18 8 | 20 0 26 |
| | June . | 22 2 58 | 21 16 58 | | 0 | f 4 12 25 | 4 5 40 |
| | Juny . | 21 15 87 | 21 8 88 | | July. | 19 6 47 | 19 7 87 |
| | Ava | 20 4 21 | 19 16 58 | | Aug | 17 19 81 | 17 14 52 |
| | O | 1 8 22 48 | 8 28 59 | | Вкрт | 16 8 15 | 15 28 7 |
| | Вкрт | 18 17 5 | 18 8 49 | | Ocr | 15 20 59 | 15 9 15 |
| | Ocr. , | 18 5 49 | 18 2 46 | | Nov. | 14 9 48 | 18 21 45 |
| | Nov | 16 18 88 | 16 21 82 | | DEC | f 18 22 27 | 18 12 44 |
| | DEC. | 16 7 17 | 16 15 80 | | 0 | 128 16 49 | 29 1 84 |
| | | | | 1480. | JAN | 12 11 12 | 12 5 51 |
| 1477. | JAM | 14 20 2 | 15 7 58 | II.A. | FEB | 10 28 56 | 11 0 5 |
| k. | Fun | 18 8 46 | 18 21 86 | 11 10 4 | Man. | 11 12 40 | 11 18 12 |
| 11 16 87 | MAR | 14 21 80 | 15 8 85 | | APRIL | 10 1 24 | 10 10 57 |
| | APRIL | 18 10 14 | 18 17 22 | | MAY . | 9 14 8 | 10 1 23 |
| | MAY . | 12 22 58 | 18 0 42 | | JUNE . | 8 2 52 | 8 18 19 |
| | June. | 11 11 42 | 11 7 84 | | 0 | 122 21 14 | 22 10 58 |
| | Juny. | 11 0 26 | 10 13 4 | | July. | 7 15 86 | 7 28 5 |
| | Aug | 9 18 10 | 9 0 17 | | Avo | 8 4 20 | 6 781 |
| | SEPT | 8 1 54 | 7 12 9 | | Supr | 4 17 4 | 4 15 44 |
| | Oer | 7 14 88 | 7 8 7 | 1 | Oor. | 4 5 48 | 4 0 80 |
| | Nov | 6 8 22 | 5 20 49 | | Nov. | 2 18 82 | 2 10 80 |
| | Dac | 5 16 6 | 5 16 8 | | Dxc | 1 2 7 18 | 1 23 6 |
| | | | | 1, | | 181 50 O | 81 11 24 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|----------------------------|--------|------------------------------|----------------|----------------------------|--------|-----------------------------|-------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. | - | d. h. m. | d. h. m. |
| 1481. | _ | | | 1484. | | | |
| G. March. | JAN | 30 8 44 | 30 2 20 | March. | JAN | 27 28 54 | 28 4 51 |
| d. h. m. | FEB | 28 21 28 | 28 18 28 | d. h. m. | FEB | 26 12 88 | 26 14 40 |
| 11 15 52 | MAR | 30 10 12 | 30 11 12 | 11 9 1 9 | MAR | 27 1 22 | 26 28 47 |
| | APRIL | 28 22 56 | 29 3 38 | } | APRIL | 25 14 6 | 25 8 49 |
| | MAY. | 28 11 40 | 28 18 57 | | MAY. | 25 2 50 | 24 18 81 |
| | June . | 27 0 24 | 27 8 33 | | JUNE. | 28 15 84 | 28 5 55 |
| | July. | 26 13 8 | 26 20 23 | | July. | 23 4 18 | 22 19 28 |
| | Aug | 25 1 52 | 25 6 49 | | Aug | 21 17 2 | 21 10 57 |
| | SEPT | 23 14 36 | 23 16 37 | | SEPT | 20 5 46 | 20 8 58 |
| | Ост | 23 3 20 | 23 2 27 | İ | 0 | 1508 | 4 16 8 |
| | Nov | 21 16 4 | 21 12 47 | | Oct | 19 18 30 | 19 21 29 |
| | Dec | 21 4 48 | 20 23 50 | | Nov. | 18 7 14 | 18 14 25 |
| | | | | | DEC | 17 19 58 | 18 5 58 |
| 1482. | JAN | 19 17 33 | 19 11 40 | | | | |
| F. | FEB. | 18 6 17 | 18 0 18 | 1485. | T | 16 8 43 | 10 10 01 |
| 11 21 41 | MAR | 19 19 1 | 19 13 54 | B. | JAN | | 16 19 21 |
| | APRIL | 18 7 45 | 18 4 26 | | FEB | 14 21 27 | 15 6 46 |
| | 0 | 3 2 7 | 3 9 23 | 11 15 8 | MAR. | 16 10 11 | 16 16 16 |
| | MAY. | 17 20 29 | 17 19 42 | | APRIL | 14 22 55 | 15 0 25 |
| | June . | 16 9 13 | 16 11 8 | | MAY . | 14 11 89 | 14 8 1 |
| | JULY. | 15 21 57 | 16 2 8 | | June . | 13 0 28 | 12 16 2 |
| | Aug. | 14 10 41 | | | July. | 12 18 7 | 12 1 82 |
| | SEPT. | 12 23 25 | _ | | Aug | $\{11 \ 1 \ 51\}$ | 10 18 26 |
| | Oct. | (12 12 9 | - | | 0 | 25 20 18 | 25 28 28 |
| | 0 | 27 6 31 | _ | | SEPT | 9 14 85 | 948 |
| | Nov. | 11 0 53 | 26 18 59 | | Ocr | 9 8 19 | 8 21 20 |
| | DEC. | 10 13 37 | 11 4 26 | | Nov | 7 16 8 | 7 16 8 |
| | DEC | 10 10 91 | 10 15 30 | | Dec | 7 4 47 | 7 10 49 |
| 1483. | JAN | 9 2 22 | 9 2 20 | 1486. | JAN. | 5 17 82 | 6 4 16 |
| E. | FEB | 7 15 6 | 7 12 58 | Δ. | FEB. | (4 6 16 | 6 4 16 4 19 16 |
| 12 3 30 | MAR | 9 3 50 | 8 23 36 | | | 19 0 88 | |
| | APRIL | √ 7 16 34 | 7 10 41 | 11 20 57 | MAR. | 5 19 0 | 18 18 45 |
| | 0 | 122 10 56 | 22 23 49 | | APRIL | | 6 7 80 |
| | MAY . | 7 5 18 | 6 22 45 | | MAY. | | 4 17 10 |
| | JUNE. | 5 18 2 | 5 12 10 | | JUNE . | 8 20 28 2 9 12 | 4 0 59 |
| | JULY. | 5 6 46 | 5 2 57 | | JUNE . | | 2 7 51 |
| 1 | Aug. | 3 19 30 | 3 18 37 | | JULY . | 1 21 56 | 1 14 50 |
| | SEPT | 2 8 14 | 2 10 32 | | 1 | 31 10 40 | 80 28 4 |
| | | (1 20 58 | 2 1 57 | | | (15 5 2 | 15 11 19 |
| | Ост. 0 | 16 15 20 | 16 2 17 | | . 1 | 29 28 24 | 29 9 85 |
| | | 31 9 42 | 31 16 27 | | SEPT. | 28 12 8 | 27 28 8 |
| | Nov | 29 22 26 | 30 5 48 | | Oct. | 28 0 52 | 27 15 82 |
| | DEC. | 29 11 10 | 29 17 55 | | Nov. | 26 13 36 | 26 10 19 |
| | | | 00 | | DEC | 26 2 20 | 26 5 54 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|---|--|---|--|--|---|
| A.D. 1487. G. March. c. h. m. 12 2 45 | JAN O FEB MAR APRIL. MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | d. h. m. 24 15 4 8 9 26 23 8 48 24 16 32 28 5 16 22 18 0 21 6 44 20 19 28 4 18 50 19 8 12 17 20 56 17 9 40 15 22 21 15 11 8 | d. h. m. 25 0 39 8 5 10 23 17 4 25 6 27 23 16 52 23 1 1 21 7 55 20 14 38 4 15 59 18 22 17 17 7 53 16 20 9 15 11 23 15 5 7 | A.D. 1490. c. March. d. h. m. 11 20 12 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | d. h. m. 21 6 14 19 18 58 21 7 42 19 20 26 19 9 10 { 3 3 32 17 21 54 17 10 38 15 23 22 14 12 6 14 0 50 { 12 13 31 27 7 56 12 2 18 | d. h. m. 20 22 52 19 14 11 21 6 26 19 22 54 19 14 45 2 23 32 18 5 18 17 18 8 16 5 27 14 15 44 14 1 48 12 11 57 27 7 59 11 22 42 |
| 1488. F.E. 11 8 34 1489. D. | JAN O FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC JAN FEB | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 14 0 18 28 20 24 12 19 19 18 12 89 12 8 16 11 14 58 10 0 10 9 7 49 7 15 1 5 22 49 5 8 5 8 19 26 8 9 11 2 1 12 81 18 50 | 1491. B. 12 2 1 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O | 10 15 8 9 8 47 10 16 81 9 5 15 { 8 17 59 28 12 21 7 6 48 6 19 27 5 8 11 3 20 55 3 9 39 { 1 22 28 16 16 45 { 1 11 7 80 28 51 | 10 10 8 8 22 3 10 10 58 9 0 38 8 15 21 23 16 44 7 6 39 6 21 59 5 12 44 4 2 28 8 15 10 2 3 4 16 7 37 1 14 27 31 1 25 |
| 11 14 23 | MAR APRIL MAY . O JUNE . JULY . AUG SEPT Oct Nov O Dec | 2 10 10 81 22 54 80 11 88 80 0 22 (18 18 44 (28 18 6 28 1 50 26 14 34 25 8 18 24 16 2 28 4 46 (7 23 8 (22 17 80 | $\begin{array}{c} & & \\ 2 & 12 & 58 \\ 1 & 6 & 21 \\ 80 & 21 & 56 \\ 80 & 11 & 6 \\ 13 & 9 & 18 \\ 28 & 21 & 58 \\ 28 & 7 & 7 \\ 26 & 15 & 32 \\ 25 & 0 & 8 \\ 24 & 9 & 38 \\ 22 & 20 & 30 \\ 8 & 7 & 10 \\ 22 & 8 & 54 \\ \end{array}$ | 1492. A.G. 11 7 50 | JAN FEE MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 29 12 86 28 1 20 28 14 4 27 2 48 26 15 82 25 4 16 24 17 0 23 5 44 21 18 28 21 7 12 19 19 56 19 8 40 | 29 12 2 27 22 23 28 8 56 26 20 10 26 8 88 24 22 40 24 14 0 23 6 8 21 22 4 21 18 22 20 8 38 19 16 26 |

| Meen Vernal Equinox. A.D. 1493. F. March. d. h. m. 11 13 38 | JAN FEB MAR O APRIL MAY . JUNE . | Mean New Moon. (O Full Ecl.) d. h. m. 17 21 24 16 10 8 17 22 52 \$\int 17 14 16 11 36 | 18 3 56 16 14 10 17 23 23 | Mean Vernal Equinox. A.D. 1496. c.B. | Month. | d. h. m | .) (O Full Ecl. |
|--|----------------------------------|---|--|---|--------|---------------------|-----------------|
| 1493. F. March. d. h. m. | FEB MAR O APRIL MAY . | 17 21 24 16 10 8 17 22 52 1 17 14 | 18 3 56 16 14 10 17 23 23 | 1496. | Tax | | d. h. m. |
| March. $d.$ $h.$ $m.$ | FEB MAR O APRIL MAY . | 16 10 8 17 22 52 1 17 14 | 16 14 10 17 23 23 | 11 | JAN | | |
| d. h. m. | MAR O APRIL MAY. | 17 22 52 | 16 14 10 17 23 23 | | | (15 12 34 | 1 15 10 00 |
| 11 13 38 | O APRIL May. | § 1 17 14 | | II | O AN. | 30 6 56 | |
| | APRIL MAY. | | | March. | FEB. | | |
| | $M_{\Lambda Y}$. | 16 11 36 | 2 3 30 | d. h. m. 11 7 5 | MAR. | 14 1 18 14 14 2 | |
| | | | 16 8 7 | 0 | APRIL | | |
| | THE | 16 0 20 | 15 17 10 | İ | MAY. | 13 2 46 12 15 30 | |
| | OULIE. | 14 13 4 | 14 3 27 | | June . | | 13 0 54 |
| | JULY. | 14 1 48 | 13 15 45 | | JULY . | | 11 8 17 |
| | Aug | 12 14 32 | 12 6 19 | | | 10 16 58 | 10 14 57 |
| | SEPT | ſ11 3 16 | 10 22 52 | ľ | Aug. | 9 5 42 | 8 22 7 |
| | 0 | 25 21 38 | 25 15 39 | | SEPT | 7 18 26 | 7 6 44 |
| İ | Ocr | 10 16 0 | 10 16 30 | | Oct | 7 7 10 | 6 17 42 |
| | Nov | 9 4 44 | 9 10 6 | | Nov. | 5 19 54 | 5 7 30 |
| | DEC | 8 17 28 | 9 2 36 | | DEC | 5 8 38 | 5 0 4 |
| 1 | | 9 1, 1 0 | 0 2 30 | 1497. | _ | | |
| 1494. | JAN. | 7 0 10 | | A. | JAN | 3,21 23 | 3 18 30 |
| - | FEB. | 7 6 13 | 7 17 14 | | | 18 15 45 | 18 19 37 |
| | | 5 18 57 | 6 5 37 | 11 10 10 | FEB. | 2 10 7 | 2 13 48 |
| 11 13 21 | MAR. | 7 7 41 | 7 15 53 | 11 12 58 | MAR | 3 22 51 | 4 8 0 |
| | 0 | $22\ 2\ 3$ | 22 3 46 | | APRIL | 2 11 35 | 2 23 58 |
| | APRIL | 5 20 25 | 6 0 28 | | MAY. | $\int 2 0 19$ | 2 13 3 |
| 1 | MAY . | 5 9 9 | 5 8 3 | | | (31 13 3 | 81 28 25 |
| | June . | 3 21 53 | 3 15 34 | | June. | 80 1 47 | 80 7 47 |
| 1. | JULY. | 3 10 37 | 3 0 7 | | 0 | f14 20 9 | 14 12 17 |
| ∄. | Aug. | § 1 23 21 | 1 10 41 | | July. | (29 14 81 | 29 15 11 |
| | 1 | 31 12 5 | 81 0 1 | | Aug | 28 3 15 | 27 22 44 |
| 1. | ~ 0 | $\int 15 \ 6 \ 27$ | 15 8 0 | | SEPT | 26 15 59 | 26 7 20 |
| | _ | (30 0 49 | 29 16 9 | | Ост | 26 4 43 | 25 17 42 |
| T . | Ocr | 29 13 33 | 29 10 25 | | Nov | 24 17 27 | 24 6 17 |
| i i | Nov | 28 2 17 | 28 5 31 | | Dec | 24 6 11 | 23 21 9 |
| ' - | DEC | 27 15 1 | 27 28 58 | I | | | |
| | | | | 1100 | 0 | 8 0 33 | 8 10 20 |
| | JAN | 26 3 46 | 26 16 15 | 1498. G. | JAN. | 22 18 55 | 22 13 58 |
| D. 1 | FEB | 24 16 30 | 25 5 50 | 11 18 42 | FEB | 21 7 39 | 21 7 41 |
| 12 1 16 1 | MEAR | 26 5 14 | 26 16 37 | 11 18 42 | MAR. | 22 20 23 | 23 1 22 |
| | APRIL | 24 17 58 | 25 1 7 | | APRIL | 21 9 7 | 21 17 49 |
| 1 | MAY . | 24 6 42 | 24 8 14 | | MAY . | 20 21 51 | 21 8 13 |
| | JUNE . | 22 19 26 | 22 14 59 | | June . | 19 10 35 | 19 20 15 |
| | JULY . | 22 8 10 | 21 22 26 | | _ 0 | 4 4 57 | 3 17 56 |
| | A.τια. | 20 20 54 | 20 7 43 | | JULY . | (18 23 19 | 19 6 19 |
| | SEPT. | 19 9 38 | 18 19 44 | | Aug. | 17 12 8 | 17 15 11 |
| | Ост. | 18 22 22 | 18 10 51 | | SEPT | 16 0 47 | 15 28 48 |
| | Nov. | 17. 11 6 | 17 4 40 | 1 | Oct. | | 15 8 59 |
| | DEC. | 16 28 50 | 17 0 6 | | Nov. | 14 2 15 | 18 19 15 |
| | | | 0 0 | | DEC | 13 14 59 | 18 6 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1499, | | d. h. m. | d. h. m. | A.D. 1502. | | d. h. m. | d. h. m. |
| r. March. | JAN | 12 3 44 | 11 19 58 | В. | JAN | 8 18 54 | 9 2 47 |
| d. h. m. | FEB | 10 16 28 | 10 10 24 | March. | FEB. | 7 7 38 | 7 13 34 |
| 12 0 31 | MAR | 12 5 12 | 12 1 58 | d. h. m. 11 17 58 | MAR. | 8 20 22 | 8 23 3 |
| | APRIL | 10 17 56 | 10 18 9 | | APRIL | 7 9 6 | 7 7 43 |
| | MAY . | 10 6 40 | 10 10 15 | | MAY. | 6 21 50 | 6 16 16 |
| | JUNE . | 8 19 21 | 9 1 30 | | JUNE . | 5 10 31 | 5 1 33 |
| | JULY. | 8 8 8 | 8 15 20 | | JULY : | 4 23 18 | 4 12 44 |
| | Aug | 6 20 52 | 7 8 33 | | | 3 12 2 | 3 2 9 |
| | SEPT. | 5 9 36 | 5 14 32 | | Aug | | |
| | Ocr | 4 22 20 | 5 0 52 | 4 | SEPT | 2 0 46 | 1 17 52 |
| | | 3 11 4 | 3 11 9 | | 0 0 | 1 | 1 11 16 |
| | Nov | 2 23 48 | 2 21 44 | | Ост. О | 16 7 52 | 16 0 35 |
| | DEC | 2 20 40 | 4 21 41 | | | 31 2 14 | 81 5 16 |
| | | | | | Nov | 29 14 58 | 29 22 40 |
| 1500 | T | 5 1 12 32 | 1 8 45 | | DEC | 29 3 42 | 29 14 26 |
| 1500. E.D. | JAN | 181 1 17 | 30 20 17 | | | | |
| 17 · | FEB | 29 14 1 | 29 8 23 | 1500 | JAN | 27 16 27 | 28 4 0 |
| 11 6 20 | MAR | 80 2 45 | 29 21 21 | 1503. | FEB | 26 5 11 | 26 15 13 |
| | APRIL | 23 15 29 | 28 11 20 | 11 23 46 | | 27 17 55 | 28 0 23 |
| | 0 | (18 9 51 | 18 16 56 | 11 25 40 | MAR | | |
| | MAY . | 28 4 13 | 28 2 12 | | APRIL | 26 6 89 | 1 |
| | JUNE . | 26 16 57 | 26 17 34 | | MAY. | 25 19 28 | 25 15 28 |
| | JULY . | 26 5 41 | 26 8 49 | | JUNE. | 24 8 7 | 23 23 15 |
| | Aug. | 24 18 25 | 24 23 19 | | July. | 23 20 51 | 28 8 89 |
| | SEPT. | 28 7 9 | 28 12 49 | | Aug | 22 9 35 | 21 20 31 |
| | Oct. | 22 19 53 | 28 1 24 | | SEPT | 20 22 19 | 20 11 25 |
| | | 6 14 15 | 6 2 59 | | Ocr. , | 20 11 8 | 20 4 52 |
| | Nov | 21 8 87 | 21 13 13 | | Nov | 18 23 47 | 18 23 53 |
| | | 20 21 21 | 21 0 28 | | DEC | 18 12 31 | 18 18 56 |
| | Drc | 20 21 21 | 21 0 20 | | | | |
| | | | | 4504 | JAN | 17 1 15 | 17 12 29 |
| 1501. | JAN | 19 10 5 | 19 11 11 | 1504. G.F. | | 15 14 0 | 16 3 30 |
| c. | FEB | 17 22 49 | 17 21 29 | 4.2. | FEB | (1 8 22 | 1 2 40 |
| 11 12 9 | MAR | 19 11 88 | 19 7 37 | | 0 | 16 2 44 | 16 15 88 |
| | APRIL | 18 0 17 | 17 18 8 | 11 5 85 | MAR. | 14 15 28 | 15 1 0 |
| | 0 | 5 2 18 39 | 8 7 9 | | APRIL | | |
| | MAY . | 17 18 1 | 17 5 40 | | MAY . | 14 4 12 | 1 |
| | JUNE. | 16 1 45 | 15 18 44 | | June . | 12 16 56 | 12 15 19 |
| | JULY. | 15 14 29 | 15 9 25 | | JULY. | 12 5 40 | 11 22 15 |
| | Aug | 14 8 18 | 14 1 20 | | Aug | 10 18 21 | 1 |
| | SEPT | 12 15 57 | 12 17 41 | | _ 0 | 25 12 46 | 25 18 38 |
| | Oct | (12 4 41 | 12 9 43 | | SEPT | 9 7 8 | 8 17 10 |
| | 0 | 26 28 3 | 26 10 86 | | Ост | 8 19 52 | 8 6 48 |
| | Nov | 10 17 25 | 11 0 47 | | Nov | 7 8 36 | 6 28 25 |
| | DEC. | 10 6 9 | 10 14 80 | | DEC | 6 21 20 | 6 18 16 |
| | | | | | 1 | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl | True New Moon. (O Full Ecl | | Month. | | True New Moon. |
|----------------------------|--------|----------------------------------|----------------------------------|-----------------|--------------|-----------|----------------|
| A.D. 1505. | | d. h. m. | d. h. m | A.D. 1508. | - | d. h. m | |
| E. | JAN | 5 10 4 | 5 13 54 | | - | | 1 |
| March. | FEB | 3 22 48 | 4 8 33 | H | JAN | | 2 17 37 |
| d. h. m. | 0 | 18 17 10 | 1 | March. d. h. m. | FEB. | 1 13 58 | 1 7 10 |
| 11 11 24 | MAR | 5 11 32 | 6 0 50 | 11 4 51 | MAR | § 2 2 42 | |
| | APRIL | 4 0 16 | | | | (31 15 26 | 31 13 35 |
| | MAY . | 3 13 0 | _ | 1 | APRIL | 30 4 10 | 30 5 36 |
| | JUNE . | 2 1 44 | | 1 | MAY. | 29 16 54 | 29 21 17 |
| | | (1 14 28 | | 1 | 0 | ∫13 11 16 | 13 6 55 |
| | JULY. | 81 3 12 | 1 15 22 | 1 | JUNE . | 28 5 38 | 28 11 55 |
| | 0 | (14 21 34 | 30 22 13 | | JULY. | 27 18 22 | 28 1 7 |
| | Aug. | 29 15 56 | 14 22 45 | | Aug | 26 7 6 | 26 12 55 |
| | SEPT. | | 29 6 6 | | SEPT | 24 19 50 | 24 23 47 |
| | Oct. | 28 4 40 27 17 24 | 27 15 54 | | Ocr | 24 8 34 | 24 10 16 |
| | Nov. | 000 | 27 4 20 | 4 | Nov | 22 21 18 | 22 20 51 |
| | DEC. | 26 6 8 | 25 19 35 | H | 0 | 7 15 40 | 7 15 56 |
| | LEG. | 25 18 52 | 25 13 14 | | DEC | 22 10 2 | 22 7 40 |
| 1506. | JAN | 21 7 36 | 24 8 8 | 1500 | _ | | |
| D. | 0 | 8 1 58 | | 1509. | JAN | 20 22 47 | 20 18 49 |
| | FEB | 22 20 21 | 8 5 7 23 2 53 | G. | ГЕВ | 19 11 31 | 19 6 23 |
| 11 17 13 | MAR | 24 9 5 | 04.4- | 11 10 39 | MAR | 21 0 15 | 20 18 35 |
| | APRIL | 22 21 49 | 24 19 58 23 10 27 | İ | APRIL | 19 12 59 | 19 7 45 |
| | MAY . | 22 10 83 | 00 | | MAY. | 19 1 43 | 18 21 59 |
| | June. | 20 23 17 | | 1 | 0 | ſ 2 20 5 | 3 0 12 |
| | JULY. | 20 12 1 | | | JUNE. | 17 14 27 | 17 13 6 |
| | Aug. | 19 0 45 | 20 15 17 | | July. | 17 3 11 | 17 4 32 |
| | SEPT. | 17 13 29 | 18 22 48 | | Aug | 15 15 55 | 15 19 38 |
| | Oct. | 17 2 13 | 17 6 55 | | Sept | 14 4 39 | 14 9 57 |
| | Nov. | 15 14 57 | 16 16 29 | | Oct | 13 17 23 | 18 28 17 |
| | DEC. | | 15 4 1 | | Nov | (12 6 7 | 12 11 42 |
| | | 15 3 41 | 14 17 43 | | 0 | 27 0 29 | 26 15 42 |
| 1507. | JAN | 13 16 25 | 13 9 25 | | DEC | 11 18 51 | 11 23 23 |
| c. | FEB | 12 5 9 | 12 2 36 | 1510 | _ | | |
| 11 23 2 | MAR | 13 17 53 | 13 20 15 | 1510. F. | JAN | | 10 10 22 |
| | APRIL | 12 6 37 | 12 13 16 | | Feb | 8 20 19 | 8 20 43 |
| | MAY . | 11 19 21 | 12 4 41 | 11 16 28 | MAR. | 10 9 3 | 10 6 38 |
| | JUNE. | (10 8 5 | 10 17 56 | | APRIL | 8 21 47 | 8 16 36 |
| | 1. | 25 2 27 | 24 16 23 | | May . | 8 10 31 | 8 3 18 |
| | JULY . | 9 20 49 | | | June . | 6 23 15 | 6 15 22 |
| | Aug | 8 9 33 | - 0 | | July . | 6 11 59 | 6 5 12 |
| | SEPT. | 6 22 17 | 8 14 41 | | Aug | 5 0 43 | 4 20 35 |
| | | 6 11 1 | 6 23 27 | | SEPT | 3 13 27 | 3 13 0 |
| 1 | | 4 23 45 | 6 8 29 | | Oct | 3 2 11 | 8 5 88 |
| | DEC. | 4 12 29 | 4 18 20 | | Nov | 1 14 55 | 1 21 27 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
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| A.D. 1511. | | d. h. m. | d. h. m. | A.D. 1514. | | d. h. m. | d. h. m. |
| E. | JAN | 29 5 8 | 29 12 44 | Α. | JAN | 25 20 18 | 26 3 22 |
| March. d. h. m. | FEB | 27 17 52 | 27 22 40 | | 0 | (9 14 40 | 9 12 31 |
| 11 22 17 | MAR | 29 6 36 | 29 7 28 | March. $d. h. m.$ | FEB | (24 9 2 | 24 20 54 |
| | 0 | (13 0 58 | 13 10 32 | 11 15 43 | MAR. | 25 21 46 | 26 11 37 |
| | APRIL | 27 19 20 | 27 15 85 | | APRIL | 24 10 30 | 24 23 16 |
| 1 | MAY . | 27 8 4 | 27 0 24 | | MAY. | 28 28 14 | 24 8 19 |
| | JUNE . | 25 20 48 | 25 10 24 | | JUNE. | 22 11 58 | 22 15 41 |
| | JULY . | 25 9 32 | 24 22 34 | | JULY. | 22 0 42 | 21 22 32 |
| | Aug | 23 22 16 | 23 13 13 | | Aug. | 20 18 26 | 20 5 52 |
| | SEPT | 22 11 0 | 22 6 1 | | SEPT | 19 2 10 | 18 14 43 |
| | 0 | 7 5 22 | 7 0 2 | | Ocr | 18 14 54 | 18 1 58 |
| | Ocr | 21 28 44 | 22 0 4 | | Nov | 17 3 38 | 16 15 46 |
| | Nov | 20 12 28 | 20 18 9 | | DEC | 16 16 22 | 16 8 16 |
| | DEC | 20 1 12 | 20 11 1 | | | | |
| 1512. | т | 18 13 56 | 10 1 47 | 1515. | JAN | (15 5 6 | 15 2 34 |
| D.C. | JAN Feb | 17 2 40 | 19 1 47 17 14 5 | G. | 0 | 29 23 28 | 80 4 25 |
| 11 4 6 | MAR. | 17 15 24 | 18 0 5 | | FEB | 13 17 50 | 13 21 26 |
| 11 4 0 | | (1 9 46 | 1 10 48 | 11 21 32 | MAR., | 15 6 34 | 15 15 20 |
| | O APRIL | 16 4 8 | 16 8 19 | | APRIL | 13 19 18 | 14 7 6 |
| | MAY. | 15 16 52 | 15 15 86 | | MAY. | 13 8 2 | 18 20 8 |
| | JUNE . | 14 5 86 | 13 22 52 | | June. | 11 20 46 | 12 6 88 |
| | July. | 13 18 20 | 13 7 16 | | JULY. | § 11 9 80 | 11 15 7 |
| | Aug. | 12 7 4 | 11 17 51 | | 0 | 26 3 52 | 25 18 55 |
| | SEPT. | (10 19 48 | 10 7 17 | | Aug | 9 22 14 | 9 22 50 |
| | 0 | 25 14 10 | 25 16 8 | | SEPT | 8 10 58 | 8 6 43 |
| | Oct. | 10 8 32 | 9 28 87 | | Ocr | 7 23 42 | 7 15 40 |
| | Nov. | 8 21 16 | 8 18 9 | | Nov | 6 12 26 | 6 2 16 |
| | DEC | 8 10 0 | 8 18 81 | | DEC | 6 1 10 | 5 14 58 |
| 1513. | | 0.00.45 | m 0 4 | 1516. | JAN. | (4 18 55 | 4 5 88 |
| 1513. B. | JAN. | 6 22 45 | 7 8 4 | F.E. | 0 | 19 8 17 | 19 10 2 |
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| 11 9 99 | O | 21 18 85 | 21 13 28 | 11 8 21 | MAR | 8 15 28 | 3 15 8 |
| | APRIL | 5 12 57 | 6 0 27 | | APRIL | 2 4 7 | 2 8 24 |
| | MAY. | 5 1 41 | 5 8 45 | | | (1 16 51 | 2 0 86 |
| | JUNE. | 8 14 25 | 8 15 48 | | MAY. | 81 5 85 | 31 14 59 |
| | JULY. | 3 3 9 | 2 22 22 | | June . | 29 18 19 | 30 3 12 |
| | 001.1 | (1 15 53 | 1 5 54 | | 0 | (14 12 41 | 14 0 59 |
| | Aug | 31 4 37 | 30 15 19 | | JULY. | 29 7 8 | 29 18 37 |
| | 0 | (14 22 59 | 15 4 87 | | Aug | 27 19 47 | 27 22 56 |
| | SEPT | 29 17 21 | 29 8 27 | | SEPT | 26 8 81 | 26 8 2 |
| | Oct | 29 6 5 | 28 18 42 | | Ocr | 25 21 15 | 25 17 86 |
| | Nov. | 27 18 49 | 27 12 37 | | Nov | 24 9 59 | 24 4 6 |
| | DEC | 27 7 88 | 27 8 8 | | DEC | 28 22 48 | 23 15 43 |
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| 1517. March. Feb. 21 0 11 20 18 28 March. Feb. 21 0 11 20 18 28 March. Feb. 21 0 11 20 18 28 March. Feb. 18 15 22 18 22 March. Feb. 18 15 22 18 22 March. 19 10 Mar. 20 14 24 20 16 49 June 19 8 8 19 8 2 June 19 8 8 19 8 2 June 15 17 20 15 22 22 Oct. 15 6 4 15 9 15 Nov. 13 18 48 18 19 56 Dec. 13 7 62 18 6 42 June 12 10 10 28 Mar. 11 20 16 11 17 88 Feb. 10 9 0 10 4 47 Mar. 11 21 44 11 120 48 Mar. 4 14 25 0 28 June 8 11 56 8 8 42 June 8 11 56 8 8 42 June 8 11 56 8 8 42 June 10 28 10 4 41 Mar. 4 14 16 20 Mar. 4 14 52 Mar. 4 15 50 4 6 18 20 Mar. 6 14 22 6 15 50 Mar. 6 | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ed.) | True New Moon. (O Full Ecl.) | Mean Vernul Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
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| March. A. A. March. | D. | JAN. | 22 11 27 | 22 4 28 | | JAN | 20 2 38 | 20 11 81 |
| 11 9 10 | | | 21 0 11 | 20 18 23 | | FEB | 18 15 22 | 18 22 9 |
| April | | | | 22 9 21 | | Mar | 19 4 6 | 19 7 17 |
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| Nov. 18 18 48 18 19 56 DEC. 18 7 82 18 6 42 1518. JAN. 11 20 16 11 17 88 FEB. 10 9 0 10 4 47 11 14 59 MAR. 11 21 44 11 16 20 APRIL 10 10 28 10 4 41 MAY. 92 31 12 91 8 7 O 24 17 34 25 0 23 JUNE. 8 11 56 8 8 42 JULY. 8 0 40 8 0 8 AUG. 6 18 24 6 15 31 SEPT. 5 2 8 5 6 81 OCT. 21 6 20 OCT. 4 14 52 4 20 89 Nov. 8 3 8 6 3 9 49 O 17 21 58 17 11 6 DEC. 2 16 20 2 22 3 1519. B. FEB. 1 6 6 33 1 5 55 30 19 17 30 15 32 APRIL 29 8 1 29 1 29 O 14 2 28 14 14 24 MAY. 28 20 45 28 12 35 JUNE. 27 9 29 27 1 22 JULY. 26 22 18 26 16 1 AUG. 22 12 25 23 17 35 O (7 6 47 6 19 8) OCT. 4 11 11 18 4 OCT. 4 11 11 18 4 OCT. 4 11 11 18 4 OCT. 4 11 21 11 11 18 4 OCT. 5 11 21 11 11 11 18 4 OCT. 6 15 36 26 9 1 Nov. 10 9 58 10 18 1 DEC. 9 22 42 10 6 5 Nov. 10 9 58 10 18 1 DEC. 9 22 42 10 6 5 Nov. 10 9 58 10 18 1 DEC. 9 22 42 10 6 5 Nov. 10 9 58 10 18 1 DEC. 9 22 42 10 6 5 Nov. 29 24 2 10 6 5 FEB. 7 0 10 7 12 2 MAR. 8 11 26 FEB. 7 0 10 7 12 2 MAR. 6 14 42 25 10 56 FEB. 6 10 18 1 OCT. 41 4 52 4 20 89 Nov. 6 14 52 4 6 15 31 SEPT. 17 18 8 12 6 8 4 NAY 6 14 42 2 6 15 5 OCT. 28 20 14 29 8 OCT. 28 20 45 28 12 35 JUNE 27 9 29 27 1 22 JULY 26 22 18 26 16 1 AUG. 25 10 57 25 8 9 SEPT. 23 28 41 24 0 58 OCT. 28 12 25 23 17 35 OCT. 20 8 35 19 14 48 | | | | | | _ | | 1 |
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| 1518. Jan. 11 20 16 11 17 38 10 9 0 10 4 47 11 14 59 Mar. 11 21 44 11 16 20 April May 92 31 12 9 18 7 24 17 34 25 0 23 June 8 11 56 8 8 42 July 8 0 40 8 0 8 Aug. 6 13 24 6 15 31 Sept. 5 2 8 5 6 31 Oct. 4 14 52 4 20 39 Nov. 8 3 36 8 9 49 O 17 21 58 17 11 6 Dec. 2 16 20 2 22 3 April 29 7 30 29 7 4 Dec. 28 20 14 29 8 Sept. 29 8 1 29 1 29 April 29 8 1 29 1 29 April 29 8 1 29 1 29 April 29 8 1 29 1 29 April 22 2 2 3 April 22 2 3 April 22 3 4 4 4 24 April 22 3 4 4 4 24 April 22 3 4 4 4 24 April 22 3 4 4 4 24 April 22 3 4 4 4 24 April 22 3 4 4 4 4 24 April 22 3 4 4 4 4 24 April 22 3 4 4 4 4 24 April 22 3 4 4 4 4 24 April 22 3 4 4 4 24 April 22 2 2 3 April 22 3 2 3 4 1 4 4 24 April 22 3 3 4 1 24 0 58 Oct. 23 12 25 23 17 35 Oct. 20 3 35 19 14 4 4 4 April 22 2 2 7 21 14 April 22 2 7 21 45 Oct. 22 2 7 21 14 April 22 2 2 2 7 21 14 April 22 2 2 2 7 21 14 April 22 2 2 2 7 21 14 April 22 2 2 2 7 21 14 April 22 2 2 2 7 21 14 April 22 2 2 2 7 21 14 April 22 2 2 2 7 21 April 22 2 2 2 7 21 April 22 2 2 2 7 21 April 22 24 2 24 24 24 24 24 24 24 24 24 24 2 | | DEC | 10 1 02 | 10 0 92 | | | , | |
| C. Feb. 10 9 0 10 4 47 11 14 59 Mar. 11 21 44 11 16 20 April May 29 3 12 9 18 7 O 24 17 34 25 0 23 June 30 40 8 0 8 Aug. 6 13 24 6 15 31 Oct. 4 14 52 4 20 39 Nov. 6 3 3 6 3 9 49 O 17 21 58 17 11 6 Dec. 2 16 20 2 22 8 1519. B. Feb | 1518. | TAN | 11 20 16 | 11 17 38 | | | | |
| 11 14 59 | | | | | | DEC. | 9 22 42 | 10 0 00 |
| APRIL 10 10 28 10 4 41 F. F. F. F. F. F. F. F | 11 14 59 | | | | | | | |
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| O 24 17 84 25 0 23 | | | | | ۴. | FEB | 7 0 10 | 7 12 27 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Fuil Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Fuli Ecl.) | True New Moon. O Full Ecl.) |
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| A.D. 1523. | Jan | d. h. m. 16 17 47 | d. h. m. 16 21 46 | A.D. 1526. G. | Jan | d. h. m. 13 8 57 | d. h. m. 13 2 17 |
| ! | FEB | 15 6 81 | 15 16 16 | March. $d. h. m.$ | FEB | 11 21 41 | 11 15 23 |
| March. d. h. m. | 0 | (2 0 53 | 1 21 56 | 11 13 29 | MAR | 18 10 25 | 18 5 82 |
| 11 20 3 | MAR | (16 19 15 | 17 8 25 | | APRIL | 11 23 9 | 11 20 36 |
| | APRIL | 15 7 59 | 15 21 30 | | MAY. | 11 11 53 | 11 12 12 |
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| | June - | 13 9 27 | 13 15 49 | | 0 | ₹24 18 59 | 24 14 19 |
| | July. | 12 22 11 | 12 22 51 | | JULY. | 9 13 21 | 9 18 42 |
| | Aug | (11 10 55 | 11 5 58 | | Aug | 8 2 5 | 8 8 8 |
| | 0 | 26 5 17 | 26 5 38 | | SEPT | 6 14 49 | 6 20 29 |
| | SEPT | 9 23 39 | 9 14 2 | | Oct | 6 8 83 | 6 7 57 |
| | Oct | 9 12 23 | 9 0 5 | | Nov | 4 16 17 | 4 18 56 |
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| 1524. c.s. | JAN. | (4 15 20 | 4 15 54 | 1527. | JAN. | 2 17 46 | 2 16 87 |
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| 11 1 52 | MAR. | 5 4 4 | 5 10 16 | 11 19 18 | MAR. | 2 19 14 | 2 14 84 |
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| | Aug | 29 8 28 | 29 6 89 | | Aug. | 20 00 00 | 27 2 88 |
| | SEPT. | 27 21 12 | 27 15 10 | N . | SEPT. | | 25 17 82 |
| | Ocr. | 27 9 56 | 27 1 1 | | Ocr. | 25 1 6 | |
| | Nov. | 25 22 40 | 25 12 40 | | Nov. | 00 10 50 | |
| | DEC | 25 11 24 | 25 2 14 | | 0 | (8 8 12 | 1 |
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| Table Color | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month, | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| March. d. h. n. d. h. | | | d. h. m. | d. h. m. | 1532. | | d. h. m. | d. h. n. |
| A. h. m. Feb. | | JAN | 10 0 7 | 10 10 0 | | JAN | 7 15 17 | 7 16 O |
| 11 6 56 | | FEB | 8 12 51 | 8 21 21 | | FEB | 6 4 1 | 6 11 7 |
| Nat | | MAR | 10 1 35 | 10 7 1 | | MAR | 6 16 45 | 7 4 28 |
| MAY . 8 8 3 8 7 28 17 JUNE . 6 15 47 6 7 85 JULY . 6 4 81 5 17 21 AUG 4 17 15 4 5 27 SEFT 8 5 59 2 20 12 OCT (2 18 48 2 18 19 O (17 18 5 17 8 81 Nov (3 0 20 11 DEC 30 8 55 (80 19 23) 1530. Jan 28 21 40 29 10 14 E. Feb 27 10 24 27 22 25 11 12 45 Mar 28 28 8 29 8 10 O (12 17 30 12 17 46 APRIL (27 11 52 27 16 5 MAY . 27 0 36 26 23 5 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 25 18 20 25 6 12 JUNE . 18 18 48 28 1 10 SEFT 22 8 32 11 48 38 AUG 28 14 48 28 1 10 SEFT 22 8 32 11 48 38 AUG 20 11 6 16 Nov 20 5 0 20 2 0 DEC 19 17 44 19 21 81 1531. A. Feb 16 19 18 17 8 28 11 18 34 MAR 18 6 29 18 16 9 APRIL (16 20 41 17 8 11 MAY . 16 9 25 16 16 19 JUNE . 14 22 9 14 28 10 JUNE . 14 10 58 14 56 AUG 12 28 87 12 18 29 SEFT (11 12 21 10 28 8 O (2 2 19 14 2 23 6 AUG (2 2 19 14 2 2 26 APRIL (18 25) 1 6 6 AUG (2 2 19 12 25 APRIL (18 25) 1 6 6 AUG (2 2 19 12 25 APRIL (18 25) 1 6 16 DEC 27 0 5 26 10 28 APRIL (24 18 2 24 14 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 APRIL (24 18 24 24 57 | | APRIL | (8 14 19 | 8 15 25 | | APRIL | 5 5 29 | 5 19 2 |
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| June. 6 15 47 6 7 85 | | MAY. | 8 3 3 | 7 23 17 | | JUNE . | 8 6 57 | 8 15 88 |
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| Aug. 4 17 15 4 5 27 Sept. 8 5 59 2 20 12 Oct. 2 18 48 2 18 19 O 17 18 5 17 8 81 Nov. 30 8 55 80 19 28 1530. Jan. 28 21 40 29 10 14 E. Fee. 27 10 24 27 22 25 11 12 45 Mar. 28 28 8 29 8 10 O 12 17 80 12 17 46 April (27 11 52 27 16 5 May 25 12 19 20 25 6 12 June 25 18 20 25 6 12 June 15 18 18 48 28 1 10 Sept. 20 5 0 20 2 0 Dec. 19 17 44 19 21 81 1531. A. Fee. 16 19 18 17 8 28 11 18 34 Mar. 18 757 18 21 47 O 2 2 19 1 20 55 April (16 20 41 77 8 11 May 16 9 25 16 16 19 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 22 9 14 28 10 June 14 20 9 18 18 29 Sept. (11 12 10 28 8 Oct. 11 1 1 5 10 11 28 Nov. 9 18 49 9 2 48 Aug. 9 2 48 Aug. 18 15 57 Ref. 18 18 42 Ref. 29 18 18 6 9 Ref. 29 18 18 6 9 Ref. 20 18 46 50 Ref. 20 18 46 50 Ref. 20 18 20 25 10 20 Ref. 27 10 24 Ref. 20 18 20 25 10 20 Ref. 27 10 24 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 20 Ref. 27 10 24 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 20 Ref. 27 10 24 27 22 25 Ref. 18 18 42 24 4 57 Ref. 18 18 42 18 14 50 Ref. 20 10 18 Ref. 25 12 50 25 16 28 Ref. 27 10 24 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 18 20 25 10 28 Ref. 20 | | | 6 4 31 | 1 | | | (1 8 25 | 166 |
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| 1530. Jan 28 21 40 29 10 14 E. Feb 27 10 24 27 22 25 11 12 45 Mar 28 28 8 29 8 10 O | | Dec | 1 | J | | | | |
| Tell | | DEC | 00 0 00 | (00 10 20 | | JAN | | |
| 11 12 45 | 1530. | JAN | 28 21 40 | 29 10 14 | E. | | 12 | - 1 |
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| MAY . 27 0 36 26 23 5 JUNE . 22 4 80 J2 13 41 JUNE . 25 13 20 25 6 12 JULY . 25 2 4 24 14 33 AUG 23 14 48 23 1 10 SEPT. 22 3 32 21 14 43 OCT 12 16 16 21 7 16 NAY . 16 9 25 16 16 19 JULY . 26 16 16 19 JULY . 27 17 14 18 15 17 JUNE . 12 29 30 APRIL 16 20 41 17 8 11 MAY . 16 9 25 16 16 19 JULY . 14 10 53 14 550 AUG 12 23 37 12 13 29 SEPT (11 12 21 10 23 3 O 26 6 4 59 6 2 22 NOY 9 13 49 9 2 43 NOY 6 4 59 6 2 22 NOY 6 4 59 6 2 22 NOY 9 13 49 9 2 43 NOY 6 4 59 6 2 22 NOY 6 4 59 6 2 NOY 6 4 59 6 2 NOY. | | 0 | (12 17 30 | 12 17 46 | | APRIL | 24 8 2 | |
| June. 25 18 20 25 6 12 June. 25 18 20 25 6 12 July. 25 2 4 24 14 38 Aug. 23 14 48 23 1 10 Sept. 22 3 32 21 14 43 O (6 21 54 7 0 25 Oct. (21 16 16 21 7 16 Nov. 20 5 0 20 2 0 Dec. 19 17 44 19 21 31 1531. A. Feb. 16 19 18 17 8 28 11 18 34 Mar. 18 7 57 18 21 47 O (2 2 19 1 20 55 April (16 20 41 17 8 11 May 16 9 25 16 16 19 June. 14 22 9 14 23 10 June. 14 22 9 14 23 10 June. 14 10 58 14 550 Aug. 12 28 37 12 18 29 Sept. (11 12 21 10 23 3 O (26 6 43 26 12 24 Oct. 11 1 5 10 11 23 Nov. 9 18 49 9 2 48 Nov. 6 4 59 6 2 22 Nov. 6 4 59 6 2 22 Nov. 6 4 59 6 2 22 Nov. 6 4 59 6 2 22 | | APRIL | 27 11 52 | 27 16 5 | | MAY . | 23 15 46 | 24 8 6 |
| July . 25 2 4 24 14 38 Aug 23 14 48 23 1 10 Sept. 22 3 32 21 14 43 Sept. 22 3 32 21 14 43 Sept. 20 5 58 20 6 84 Sept. 20 5 58 20 6 84 Sept. 20 5 58 20 6 84 Sept. 20 5 58 20 6 84 Sept. 18 18 18 42 18 14 52 Oct 18 18 42 18 14 52 Oct 18 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 42 18 14 52 Oct 18 18 18 14 52 Oct 18 18 18 14 52 Oct 18 18 18 14 52 Oct 18 18 18 18 18 18 18 18 18 18 18 18 18 | | MAY . | 27 0 36 | 26 23 5 | | JUNE . | 22 4 30 | 22 13 41 |
| Aug 23 14 48 23 1 10 Sept. 22 3 32 21 14 43 O | 1 | June. | 25 13 20 | 25 6 12 | | July. | 21 17 14 | 21 22 30 |
| Sept. 22 3 32 21 14 43 Oct. 18 18 42 18 14 52 Oct. 18 16 21 7 16 Nov. 20 5 0 20 2 0 Dec. 19 17 44 19 21 31 11 18 34 Mar. 18 6 29 18 16 19 19 11 12 10 23 3 Oct. 14 12 21 Oct. 15 10 12 10 23 Nov. 9 18 49 9 2 43 Nov. 6 4 59 6 22 22 Oct. 16 15 16 16 19 18 17 8 18 18 18 18 18 | | JULY. | 25 2 4 | 24 14 33 | | 0 | 5 11 86 | 5 1 48 |
| Oct \{21 16 16 21 7 16 \\ Nov \{20 5 0 20 2 0 \\ Dec \{19 17 44 19 21 31 \\ A. \{Feb \{16 19 13 17 8 28 \\ MAR \{18 7 26 18 32 \\ MAR \{18 6 29 17 8 28 \\ MAR \{18 7 26 18 32 \\ MAR \{18 6 29 18 16 9 \\ APRIL \{16 20 41 17 8 11 \\ MAY . \{16 20 41 17 8 11 \\ MAY . \{16 9 25 16 16 19 \\ JUNE . \{14 21 37 \\ MAY . \{16 9 25 16 16 19 \\ JUNE . \{14 22 9 14 23 10 \\ JUNE . \{14 22 9 14 23 10 \\ JUNE . \{14 21 32 \\ MAG \{12 23 37 12 13 29 \\ SEPT \{11 12 21 10 23 3 \\ O\{26 6 43 26 12 24 \\ Oct \{11 1 5 10 12 3 \\ Nov 9 18 49 9 2 43 \\ Nov 9 18 49 9 2 43 \\ Nov \{6 4 59 6 2 22 20 25 25 25 25 25 25 25 25 25 25 25 25 25 | | Aug | 23 14 48 | 23 1 10 | | Aug | [20 5 58] | 20 6 81 |
| OCT \begin{array}{c ccccccccccccccccccccccccccccccccccc | 1 | SEPT. | 22 3 32 | 21 14 43 | | SEPT | 18 18 42 | 18 14 52 |
| Oct {21 16 16 21 7 16 Nov 20 5 0 20 2 0 Dec 19 17 44 19 21 31 | l l | | (6 21 54 | 7 0 25 | | Ост | 18 7 26 | 18 0 9 |
| Nov. 20 5 0 20 2 0 Dec. 19 17 44 19 21 31 1531. A. Feb. 16 19 13 17 8 28 11 18 34 MAR. 18 7 57 18 21 47 O 2 2 19 1 20 55 April 16 20 41 17 8 11 MAY 16 9 25 16 16 19 June 14 22 9 14 23 10 July 14 10 53 14 5 50 Aug. 12 23 37 12 13 29 Sept. (11 12 21 10 23 3 O 26 6 43 26 12 24 Oct. 11 1 5 10 11 23 Nov. 9 13 49 9 2 43 Dec. 16 8 54 15 28 38 Dec. 16 8 54 16 18 Dec. 16 8 54 15 28 38 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 8 54 15 28 Dec. 16 18 Dec. 16 8 54 16 18 Dec. 16 8 54 16 18 Dec. 16 8 16 Dec. 16 8 16 Dec. 16 8 16 Dec. 16 18 | 1 | | 21 16 16 | 1 | | Nov | 16 20 10 | 16 10 58 |
| DEC 19 17 44 19 21 31 1531. | | Nov. | 20 5 0 | 20 2 0 | | DEC | 16 8 54 | 15 28 88 |
| 1531. Jan 18 6 29 18 16 9 D. | | 1 . | | | | | | |
| A. Feb. 16 19 18 17 8 28 11 18 34 Mar. 18 7 57 18 21 47 O | 1501 | | | | 1534 | TAN | (14 21 80 | 14 18 55 |
| 11 18 34 Mar. 18 7 57 18 21 47 O | 1 | 1 | | | | | 12 1 | |
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| APRIL 16 20 41 17 8 11 1 13 11 51 13 15 17 MAY . 16 9 25 16 16 19 JUNE . 14 22 9 14 23 10 JULY . 14 10 53 14 5 50 AUG 12 23 37 12 13 29 Sept (11 12 21 10 23 3 0 (25 20 25 25 8 6 8 26 12 24 Oct 11 1 5 10 11 23 Nov 9 13 49 9 2 43 Nov 6 4 59 6 2 22 | 11 10 91 | l | 1 | 1 | 11 19 0 | | | |
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| June. 14 22 9 14 23 10 June. 14 10 53 14 5 50 Aug. 12 28 37 12 13 29 Sept. (11 12 21 10 23 3) O (26 6 43 26 12 24) Oct. 11 1 5 10 11 23 Nov. 9 13 49 9 2 43 June. 11 18 19 11 21 89 July (11 2 8) June (11 18 19) 11 21 89 June (11 18 19) 11 21 89 June (11 18 19) 11 21 89 Aug. (25 20 25 25 8 6) Sept. (8 3 31 8 6 48) Oct. (7 16 15 7 16 28) Nov. (6 4 59 6 2 22) | | | 1 | | | | | |
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| 3 20 320 30 | | DEC. | 9. 2 33 | 8 20 40 | | DEC | 5 17 43 | 9 18 1 |

| Mean Vernal Equinox | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Full Ecl.) |
|---------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------------------|
| A.D. 1535. | | d. h. m. | d. h. m. | A.D. 1538. | | d. h. m. | d. h. m. |
| C. | JAN | 4 6 27 | 4 0 32 | F. | т | · | 1 7 55 |
| March. d. h. m. | FEB | 2 19 11 | 2 12 55 | 35 3 | JAN | (30 10 21 | 30 20 14 |
| 11 17 49 | MAR | 4 7 55 | 4 2 16 | March. $d.$ $h.$ $m.$ | FEB | 28 23 5 | 1 6 35 |
| | APRIL | 2 20 39 | 2 16 36 | 11 11 15 | MAR | 80 11 49 | 30 15 21 |
| | 35 | (2 9 28 | 2 7 45 | | APRIL | 29 0 33 | 28 23 11 |
| | MAY. | 81 22 7 | 81 28 17 | | 0 | (13 18 55 | 14 4 14 |
| | June . | 80 10 51 | 30 14 82 | | MAY. | 28 13 17 | 28 6 59 |
| | July. | 29 28 35 | 80 4 54 | | June . | 27 2 1 | 26 15 47 |
| | Aug | 28 12 19 | 28 18 8 | | July. | 26 14 45 | 26 2 34 |
| | SEPT. | 27 1 3 | 27 6 17 | | Aug. | 25 3 29 | 24 16 1 |
| | Ocr | 26 18 47 | 26 17 44 | | SEPT. | 23 16 13 | 23 8 9 |
| | Nov. | 25 2 81 | 25 4 48 | | Oct. | 23 4 57 | 23 2 17 |
| | DEC. | 24 15 15 | 21 15 41 | | | 6 23 19 | 6 17 55 |
| | LJEC. | 24 10 10 | 21 10 11 | | Nov | 21 17 41 | 21 21 5 |
| 1538. | JAN | 23 4 0 | 23 2 28 | | DEC. | 21 6 25 | 21 15 12 |
| 13.A. | FEB. | 21 16 44 | 21 18 12 | | D1.0 | 21 0 25 | 21 10 12 |
| 10 23 88 | MAR. | 22 5 28 | 22 0 12 | 1520 | JAN | 19 19 9 | 20 7 18 |
| 10 20 05 | i . | 20 18 12 | 20 11 56 | 1539. E. | FEB. | 18 7 58 | 18 20 47 |
| | APRIL | 20 6 56 | 20 11 50 | | MAR. | 19 20 33 | 20 7 36 |
| | May . | | 4 7 49 | 11 17 4 | APRIL | 18 9 22 | 18 16 12 |
| | 0 | 12 | 18 15 9 | | MAY. | 17 22 6 | 17 23 26 |
| | JUNE. | 18 19 40 | | | JUNE. | 16 10 50 | 16 6 16 |
| | July. | 18 8 21 | 18 6 82 | | JULY. | 15 23 34 | 15 13 50 |
| | Aug | 16 21 8 | 16 22 20 | | | 14 12 18 | 18 23 12 |
| | SKPT. | 15 9 52 | 15 18 58 | | Aug. | 18 1 2 | 12 11 18 |
| | Ocr | 14 22 86 | 15 4 88 | | SEPT. | 12 13 46 | 12 11 18 |
| ļ | Nov. | (18 11 20 | 18 18 20 | | Ocr | 1 ' ' | 10 20 20 |
| 1 | 0 | (28 5 42 | 27 19 20 | 1 | Nov. | | |
| | DEC | 18 0 4 | 18 6 58 | | DEC. | 10 15 14 | 10 15 45 |
| 1537. | JAN | 11 12 48 | 11 18 20 | 1540. | JAN. | 9 8 58 | 9 11 8 |
| G. | FER. | 10 1 82 | 10 4 41 | D.C. | FEB. | 7.16 42 | 8 4 38 |
| 11 5 27 | MAR. | 11 14 16 | 11 14 11 | 10 22 58 | MAR. | (8 5 26 | 8 19 25 |
| | APRIL | 10 8 0 | 9 28 17 | | 0 | 22 23 48 | 22 18 7 |
| | MAY . | (9 15 44 | 9 8 46 | | APRIL | 6 18 10 | 7 7 8 |
| | 0 | 24 10 6 | 21 21 82 | | MAY . | 6 6 54 | 6 16 13 |
| | JUNE . | 8 4 28 | 7 19 27 | | JUNE | 4 19 38 | 4 23 34 |
| | July . | 7 17 12 | 781 | | July . | 4 8 22 | 4 6 10 |
| | Aug. | 6 5 56 | 5 22 41 | | Aug. | 2 21 6 | 5 2 13 16 |
| | SEPT. | 4 18 40 | 4 15 5 | | | 1 9 50 | 81 21 49 |
| | Ocr. | 4 7 24 | 4 8 28 | | SEPT. | 0 16 4 12 | 16 9 31 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Fuli Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean Now Moon. (○ Full Ecl.) | True New Moon, (^) Full Rel.) |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|---------------------------------|------------------------------------|-------------------------------------|
| A.D. 1541. | | d. h. m. | d. h. m. | A.D. 1544. | magyanatas attuatas anti-arithi | d. h. m. | d. h. m. |
| в. | JAN | 27 1 31 | 27 5 35 | F.E. | C | $\zeta = 9.22 \cdot 19$ | 10 7 46 |
| 35 1 | FEB | 25 14 15 | 25 28 54 | | JAN | (21 16 41 | 24 10 55 |
| March. d. h. m. | 0 | (12 8 37 | 12 6 9 | March. | FEB | $28 - 5 \cdot 25$ | 22 28 81 |
| 11 4 42 | MAR | 27 2 59 | 27 15 51 | 10 22 8 | MAR | 28 18 9 | 28 18 8 |
| | APRIL | 25 15 43 | 26 4 50 | | APRIL | 22 6 58 | 22 8 84 |
| | MAY . | 25 4 27 | 25 15 1 | | MAY . | 21 19 87 | 21 18 45 |
| | JUNE. | 23 17 11 | 23 23 9 | | Junk . | 20 8 21 | 20 10 12 |
| | July. | 28 5 55 | 23 6 21 | | 0 | (5 2 48 | 4 21 45 |
| | Aug | 21 18 39 | 21 13 41 | | July . | 19 21 5 | 20 1 11 |
| | 0 | (5131 | 5 12 88 | | Aug | 18 9 49 | 18 15 14 |
| | SEPT | 20 7 23 | 19 22 6 | | SEPT | 16 22 88 | 17 4 11 |
| | Oct | 19 20 7 | 19 8 25 | | Oct. | 16 11 17 | 16 16 14 |
| 1 | Nov | 18 8 51 | 17 21 6 | | Nov | 15 0 1 | 15 8 40 |
| | DEC | 17 21 35 | 17 12 14 | | DEC . | (14 12 45 | 14 14 45 |
| | | | | | . 0 | 29 7 7 | 29 7 52 |
| 1542. | JAN | 16 10 20 | 16 5 22 | 1545. | JAN | 18 1 80 | 18 1 88 |
| A. | FEB | 14 28 4 | 14 28 84 | D. | FEB | 11 11 14 | 11 12 6 |
| 113 | 0 | § 1 17 26 | 1 22 11 | 11 8 57 | MAR. | 18 2 58 | 12 22 89 |
| 11 10 31 | MAR | (16 11 48 | 16 17 34 | | APRIL | 11 15 42 | 11 9 42 |
| | APRIL | 15 0 32 | 15 10 8 | | MAY . | 11 4 26 | 10 21 44 |
| | MAY . | 14 18 16 | 15 0 28 | | JUNE . | (9 17 10 | 9 11 11 |
| į | June . | 13 2 0 | 13 12 11 | | 0 | 24 11 82 | 24 15 8 |
| | Jura. | 12 14 44 | 12 21 53 | | JULY . | 9 5 54 | 9 2 0 |
| | Aug | 11 8 28 | 11 6 28 | į. | Aug | 7 18 88 | 7 17 46 |
| | SEPT | 9 16 12 | 9 14 40 | | SEPT | 6 7 22 | 6 9 45 |
| | Ocr | 9 4 56 | 8 23 38 | | Oct | 5 20 B | 6 1 15 |
| | Nov. | 7 17 40 | 7 9 42 | | Nov | 4 8 50 | 4 15 47 |
| | DEC | 7 6 24 | 6 21 25 | | DEC | 8 21 84 | 4 5 7 |
| | | | |]] | 0 | £18 15 56 | 18 8 1 |
| 1543. | JAN | 5 19 8 | 5 10 47 | | | (2 10 18 | 2 17 12 |
| G. | FEB | 4 7 52 | 4 1 42 | 1546. | JAN | 81 28 2 | |
| 11 16 19 | MAR | 5 20 36 | 5 17 48 | C. | FEB | | 1 4 1 |
| | APRIL | 4 9 20 | 4 10 25 | 11 9 46 | MAR. | 2 11 46 | (2 18 48 |
| 1 | MAY . | 3 22 4 | 4 2 46 | | | (1 0 80 | 81 22 44 |
| | June. | 2 10 48 | | | APRIL | 80 18 14 | 80 7 40 |
| | T | 1 23 32 | | | MAY . | 80 1 58 | 29 17 26 |
| | JULYC | 1) | 1 | | JUNE . | 28 14 42 | 28 4 52 |
| | A ==== | 31 12 16 | 1 | | JULY . | 28 8 26 | 27 18 27 |
| | Aug | | | | Aug. | 26 16 10 | 26 10 8 |
| | SEPT | 28 13 44 | | 1 | SEPT | 25 4 54 | 25 8 19 |
| | Ocr Nov | | 1 | | Ocr | 24 17 88 | 24 20 55 |
| | DEC. | | | | Nov | 28 6 22 | 28 18 52 |
| | DEC. | 26 8 56 | 25 28 7 | | DEC | 22 19 6 | 28 5 17 |
| | 1 | | ļ | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (C Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|---------|------------------------------------|------------------------------|
| A.D. 1547. | | d. h. m. | d. h. m. | A.D. 1550. | | d. h. m. | d. h. m. |
| В. | JAN | 21 7 51 | 21 18 40 | E. | JAN | 17 23 1 | 17 23 54 |
| March. $d.$ $h.$ $m.$ | FEB | 19 20 35 | 20 5 54 | d. h . m . | FEB | 16 11 45 | 16 18 48 |
| 11 15 81 | MAR | 21 9 19 | 21 15 14 | 11 9 1 | MAR | 18 0 29 | 18 11 55 |
| | APRIL | 19 22 3 | 19 23 15 | | APRIL | 16 13 13 | 17 2 21 |
| | 0 | (4 16 25 | 5 0 10 | | MAY . | 16 1 57 | 16 13 50 |
| | MAY . | 19 10 47 | 19 6 46 | | JUNE . | 14 14 41 | 14 22 55 |
| | June . | 17 23 31 | 17 14 48 | | JULY . | 14 3 25 | 14 6 33 |
| | JULY. | 17 12 15 | 17 0 25 | | Aug | 12 16 9 | 12 13 48 |
| | Aug | 16 0 59 | 15 12 30 | | SEPT | 11 4 53 | 10 21 44 |
| | SEPT | 14 13 43 | 14 3 24 | | Oct | 10 17 37 | 10 7 10 |
| | Ocr | (14 2 27 | 13 20 46 | | Nov | 9 6 21 | 8 18 42 |
| | 0 | 28 20 49 | 28 17 9 | | DEC | 8 19 5 | 8 8 37 |
| | Nov | 12 15 11 | 12 15 85 | | | | |
| | DEC | 12 8 55 | 12 10 23 | 1551. | JAN | 7 7 49 | 7 0 42 |
| 4540 | _ | | | D. | FEB. | (5 20 33 | 5 18 18 |
| 1548. | JAN | 10 16 40 | 11 8 48 | | 0 | 20 14 55 | 20 21 40 |
| | FEB | 9 5 21 | 9 18 34 | 11 14 50 | MAR. | 7 9 17 | 7 12 19 |
| 10 21 23 | MAR | 9 18 8 | 10 6 85 | 11 14 00 | APRIL | 5 22 1 | 6 5 34 |
| | APRIL | 8 6 52 | 8 16 4 | | MAY. | 5 10 45 | 5 20 59 |
| | 0 | 23 1 14 | 28 0 36 | | JUNE . | 3 23 29 | 4 10 0 |
| | MAY. | 7 19 36 | 7 23 46 | | July. | 8 12 18 | 8 20 46 |
| • | June. | 6 8 20 | 6 6 88 | | DILLE . | 2 0 57 | 2 5 56 |
| | July. | 5 21 4 | 5 18 85 | | Aug. C | 11 | 16 8 85 |
| | Aug. | 4 9 48 | 8 21 57 | | AUG. | 31 18 41 | 81 14 25 |
| | SEPT | 2 22 32 | 2 8 37 | | SEPT. | 30 2 25 | 29 23 8 |
| | Oct | 2 11 16 | 1 22 20 | | Oct. | 29 15 9 | 29 8 46 |
| | 0 | 17 5 88 | 17 8 48 81 15 2 | | Nov. | 28 8 58 | 27 19 44 |
| | Nov | 1 0 0 | | | 70 | 27 16 87 | 27 8 14 |
| | | 30 12 44 | 80 9 55 | | DEC | 24, 40 01 | 21 O 11 |
| | DEC | 30 1 28 | 80 5 81 | | | 20 - 00 | 27 22 42 |
| 1549. | JAN | 28 14 12 | 29 0 7 | 1552. с.в. | JAN. | | |
| F. | FEB | 27 2 56 | 27 16 20 | G.D. | 0 | 9 28: 44 | |
| 11 3 12 | MAR | 28 15 40 | 29 5 81 | 10 00 00 | FEB. | £24 18 6 | 57.51 |
| | 0 | (12 10 2 | 12 4 14 | 10 20 89, | MAR. | 25 6 50 | |
| | APRIL | 27 4 24 | 27 15 45 | | APRIL | 28 19 84 | 1 . 1 |
| | MAY . | 26 17 8 | 26 28 45 | | MAY . | 28 8 18 | |
| | June . | 25 5 52 | 25 6 86 | | JUNE. | 21 21 2 | 4 |
| | July . | 24 18 36 | 24 13 22 | | JULY. | 21, 9, 46 | |
| | Aug | 28 7 20 | 22 21 10 | | 0 | 5 4 8 | 1 1 2 2 2 2 |
| | SEPT. | 21 20 4 | 21 6 57 | | Aug | (19 22 80 | 4 1 |
| | 0 | 6 14 26 | 6 20 17 | | SEPT. | 18 11 14 | 1 2 2 1 1 |
| | Oct | (21 8 48 | 20 19 25 | | Oct | 17 23 58 | The Wat |
| | Nov | 19 21 32 | 19 10 50 | | Nov. | 16 12 42 | P 03 |
| | DEC | 19 10 16 | 19 4 42 | | DEC | 16 1 26 | 15 21 57 |
| | į. | 1 | 1 | 11 | 1 | 1 | an and see land of the |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|---|--|---|--|--|--|
| A.D. 1553. A. March. d. h. m. 11 2 27 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 14 14 11 13 2 55 14 15 39 13 4 28 12 17 7 11 5 51 10 18 85 9 7 19 7 20 8 7 8 47 5 21 31 5 10 15 | d. h. m. 14 9 20 12 21 17 14 10 3 12 23 46 12 14 26 11 5 44 10 21 3 9 11 48 8 1 34 7 14 21 6 2 19 5 18 42 | A.D. 1556. E.D. March. d. h. m. 10 19 54 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEFT OCT NOV | d. h. m. 12 5 21 10 18 5 11 6 49 9 19 33 { 9 8 17 24 2 39 7 21 1 7 9 45 5 22 29 4 11 18 3 28 57 { 2 12 41 | d. h. m. 12 16 34 11 4 48 11 14 55 9 23 19 9 6 48 24 10 54 7 14 20 6 22 56 5 9 40 8 28 12 8 15 30 2 9 56 |
| 1554. g. 11 8 16 | JAN FEB MAR AFRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC. | 3 22 59 2 11 48 4 0 27 2 13 11 2 1 55 31 14 39 15 9 1 30 3 23 29 16 7 28 4 51 26 17 35 26 6 19 24 19 8 { 9 18 25 | 4 0 39 2 11 11 8 21 28 2 7 55 1 19 7 81 7 87 15 15 11 29 21 41 29 13 5 28 5 15 26 21 19 26 12 41 26 2 52 9 3 37 24 15 43 | 1557. c. 11 148 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 17 7 8 2 1 25 31 14 9 30 2 58 28 15 37 30 4 21 28 17 5 28 5 49 26 18 38 26 7 17 24 20 1 28 8 45 22 21 29 21 10 18 | 17 2 44 2 5 6 31 28 24 80 15 85 { 1 4 58 80 15 44 28 28 55 28 6 56 26 18 40 25 21 18 24 6 40 22 18 54 22 10 18 21 4 18 20 28 42 |
| 1555. F. .11 14 5 | JAN. FEB. MAR. APRII MAY O JUNE JULY AUG. SEPT. OCT. NOV. O DEC. | 21 9 16 22 22 0 21 10 44 20 23 28 (4 17 50 19 12 12 19 0 56 17 13 40 16 2 24 15 15 8 (14 3 52 28 22 14 | 20 16 1 5 4 87 19 2 21 18 14 46 17 5 29 15 22 9 15 15 54 2 14 9 34 4 28 12 19 | 1558. B. 11 7 82 | JAN. FEB. MAR. O APRIL MAY JUNE JULY AUG. SEPT. O OCT. NOV. DEC. | \$ 7 32 18 1 54 17 14 38 16 3 22 15 16 6 14 4 50 12 17 34 27 11 56 12 6 18 | 18 14 44 17 28 42 16 6 59 15 13 41 13 20 55 4 12 5 42 5 27 17 9 6 11 16 58 2 10 6 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|---------------|------------------------------------|------------------------------------|----------------------------|----------|------------------------------------|----------------|
| A.D. 1559. | | d. h. m. | d. h. m. | A.D. 1562. | | d. h. m. | d. h. m. |
| March. | JAN | 8 20 31 | 8 18 13 | D. | JAN | r 5 11 41 | 580 |
| d. h. m. | FEB | 7 9 15 | 7 13 19 | 36 3 | 0 | 120 6 3 | 20 15 54 |
| 11 13 20 | MAR | ∫ 8 21 59 | 9 7 22 | March. d. h. m. | FEB | 4 0 25 | 3 19 29 |
| | 0 | 123 16 21 | 23 14 14 | 11 6 47 | MAR | 5 13 9 | 5 7 88 |
| | APRIL | 7 10 43 | 7 28 7 | | APRIL | 4 1 58 | 3 20 27 |
| | MAY. | 6 23 27 | 7 12 1 | | MAY. | 3 14 37 | 3 10 24 |
| | June. | 5 12 11 | 5 22 14 | | JUNE . | 2 3 21 | 2 1 18 |
| | JULY . | 5 0 55 | 5 6 32 | : | | (i 16 5 | 1 16 41 |
| | Aug | 3 13 39 | 3 13 59 | | JULY O | 16 10 27 | 16 5 13 |
| | SEPT | 1 2 2 23 | 1 21 37 | | | 31 4 49 | 81 7 54 |
| | 0 | 16 20 45 | 16 19 45 | | Aug | 29 17 38 | 29 22 26 |
| | | (115 7 | 1 6 21 | | SEPT. | 28 6 17 | 28 11 59 |
| | Ост | 31 8 51 | 80 16 55 | | Ocr | 27 19 1 | 28 0 37 |
| | Nov | 29 16 35 | 29 5 89 | 1 | Nov. | 26 7 45 | 26 12 29 |
| | DEC | 29 5 19 | 28 20 86 | | DEC. | 25 20 29 | 25 23 42 |
| | | | | | J. 10. 1 | 20 20 20 | 20 20 42 |
| 1560. | JAN | 27 18 3 | 07 10 00 | 1563. | 0 | 9 14 51 | 9 15 48 |
| G.F. | | 26 6 47 | 27 13 22 26 7 5 | C. | JAN | 24 9 18 | 24 10 22 |
| | FEB | | | | FEB. | 22 21 57 | 22 20 85 |
| 10 10 0 | O NT. | 12 1 9 | 12 6 80 | 11 12 36 | MAR. | 24 10 41 | 24 6 87 |
| 10 19 9 | MAR | 126 19 31 | 27 0 40 | | APRIL | 22 28 25 | 22 17 5 |
| | APRIL MAY. | 25 8 15 | 25 16 58 | | MAY. | 22 12 9 | 22 4 88 |
| | | 24 20 59 | 25 7 12 | | JUNE . | 21 0 58 | 20 17 45 |
| | June. | 23 9 43 | 23 19 8 | | 0 | (5 19 15 | 5 22 27 |
| | July. | 22 22 27 | 28 5 10 | ļ | July . | 20 13 37 | 20 8 81 |
| | Aug | 21 11 11 | 21 14 4 | ŀ | Aug. | 19 2 21 | 19 0 82 |
| | 0 | 5 5 83 | 4 19 50 | | SEPT. | 17 15 5 | 17 16 58 |
| | SEPT | 19 28 55 | 19 22 47 | | Our. | 17 8 49 | 17 9 8 |
| | Oct | 19 12 89 | 19 8 4 | | Nov. | 15 16 83 | 16 0 8 |
| | Nov. | 18 1 23 | 17 18 28 | | Dec. | (15 5 17 | 15 18 51 |
| | DEC | 17 14 7 | 17 - 6 11 | | 0 | 29 28 89 | 29 16 14 |
| | _ | | | | | | |
| 1561. E. | JAN | 16 2 51 | 15 19 18 | 1564. | Jan | 13 18 2 | 14 2 2 |
| | FEB | 14 15 85 | 14 9 48 | B.A. | Feb | 12 6 46 | 12 12 42 |
| 11 0 58 | MAR | 16 4 20 | 16 1 15 | 10 18 25 | MAR. | 12 19 80 | 12 22 2 |
| | APRIL | 14 17 4 | 14 17 21 | | APRIL | 11 8 14 | 11 6 85 |
| | MAY. | 14 5 48 | 14 9 22 | | MAY . | 10 20 58 | 10 15 6 |
| | June. | 12 18 32 | 18 0 82 | | June . | 9 9 42 | 9 0 29 |
| | July. | 12 7 16 | 12 14 18 | | JULY. | 8 22 26 | 8 11 41 |
| | Aug | 10 20 0 | 11 2 32 | | Avg | 7 11 10 | 7 1 15 |
| | SEPT | 9 8 44 | 9 18 88 | | SEPT | 5 28 54 | 5 17 7 |
| | Ocr | 8 21 28 | 9 0 18 | | Oor | 5 12 88 | 5 10 40 |
| | Nov | 7 10 12 | 7 10 19 | | Nov | 4 . 1 22 | 4 4 46 |
| | DEC | 6 22 56 | 6 20 58 | | Dec | 8 14 6 | 8 22 9 |
| | | | | | | 1 | CANTON DAY |

| Mean Vernal | Month. | Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|----------------|--------|---------------------|----------------------|----------------------|--------|-------------------|----------------|
| Equinox. | | (O Full Ecl.) | | Equinox. | | (O Full Ecl.) | (O Full Ecl.) |
| A.D. | | d. h. m. | d. h. m. | A.D. 1568. | | d. h. m. | d. h. m. |
| 1565. G. | т | ſ 2 2 EO | 2 13 50 | D.C. | JAN | 29 6 44 | 29 7 40 |
| | JAN | 31 15 84 | | March. | FEB | 27 19 28 | 28 2 17 |
| March. | FEB | | 1 3 14 | d. h. m. 10 17 40 | MAR. | 28 8 12 | 28 19 11 |
| d. h. m. | 70 | ſ 2 4 18 | 2 14 16 | 20 21 20 | APRIL | 26 20 56 | 27 9 28 |
| 11 0 13 | MAR | 131 17 2 | 31 23 17 | | MAY. | 26 9 40 | 26 20 58 |
| | APRIL | 30 5 46 | 30 6 58 | | JUNE. | 24 22 24 | 25 6 10 |
| | 0 | ∫15 0 8 | 15 6 49 | | July. | 24 11 8 | 24 14 2 |
| | MAY . | (29 18 30 | 29 14 11 | | Aug | 22 23 52 | 22 21 37 |
| | June. | 28 7 14 | 27 22 1 | | SEPT | 21 12 36 | 21 6 52 |
| | July. | 27 19 58 | 27 7 33 | | Ocr | 21 1 20 | 20 15 37 |
| | Aug | 26 8 42 | 25 19 34 | | Nov | 19 14 4 | 19 3 17 |
| | SEPT | 24 21 26 | 24 10 43 | | DEC | 19 2 48 | 18 17 6 |
| | Ocr | 24 10 10 | 24 4 20 | | | | |
| | 0 | 8 4 32 | 8 1 54 | 1569. | JAN | 17 15 88 | 17 8 53 |
| | Nov. | 122 22 54 | 22 23 27 | в. | FEB | 16 4 17 | 16 2 1 |
| 1500 | DEC | 22 11 38 21 0 23 | 22 18 30 21 11 56 | | 0 | f 2 22 39 | 8 6 6 |
| 1566. F. | JAN | 21 0 23 19 13 7 | 20 2 43 | 10 23 29 | MAR | 17 17 1 | 17 19 85 |
| 11 6 2 | FEB | 21 1 51 | 21 14 34 | | APRIL | 16 5 45 | 16 12 28 |
| 11 0 2 | MAR. | 19 14 35 | 19 23 50 | | MAY . | 15 18 29 | 16 3 44 |
| | APRIL | (4 8 57 | 4 7 19 | | JUNE. | 14 7 13 | 14 16 52 |
| | MAY. | 19 3 19 | 19 7 19 | | July . | 13 19 57 | 14 8 54 |
| Ì | JUNE . | | 17 13 59 | | Aug | [12 8 41 | 12 13 23 |
| | JULY . | 1 | 16 20 59 | | 0 | 127 8 3 | 26 15 86 |
| | Aug. | | 15 5 25 | İ | SEPT | 10 21 25 | 10 22 23 |
| 1 | SEPT. | | 13 16 14 | | Ocr | 10 10 9 | 10 7 32 |
| | Oct. | (13 18 59 | 13 6 15 | | Nov. | 8 22 53 | 8 17 80 |
| | 0 | 28 13 21 | 28 17 19 | | DEC | 8 11 37 | 8 4 35 |
| | Nov. | . 12 7 43 | 11 22 54 | | | | |
| | DEC. | . 11 20 27 | 11 17 51 | 1570. | JAN | 7 0 22 | |
| 1567. | JAN. | . 10 9 12 | 10 13 28 | Δ. | FEB | 12 | |
| E. | FEB. | . 8 21 56 | 9 7 59 | | V | 20 7 28 | |
| 11 11 51 | MAR. | | 11 0 4 | 11 5 18 | | 1 | _ |
| | APRIL | 1 (| | | MAY | | |
| | 0 | 23 17 46 | | | JUNE | | |
| | MAY | | 1 | 11 | JULY | | |
| | June | 1 1 | 1 | 11. | OOLX | (1 17 3 | |
| | July | 1 ~ ~ ~ | 1 | l) | Aug. | | 1 |
| | Aug. | ، سیسا | | 11 | | 31 6 1 | |
| 1 | SEPT. | . 3 15 4 | | U | SETT. | | |
| | Ocr. | 17 22 10 | | II. | Ост. | . 29 7 4 | |
| | Nov. | | 1 | II . | Nov. | . 27 20 2 | 3 27 20 4 |
| | 1,00 | 1 5 10 | Kenta | . 11 | DEC. | . 27 9 1 | 0 27 6 55 |
| | DEC. | . 17 ** | 0 30 12 47 | 7 | | | |
| · | | | | | | | |

| Equinox. (O Full Ecl.) (O Full Ecl.) Equinox. (O Full Ecl.) (O Full Ecl. | . m. L 5 |
|--|-------------|
| 1571. d. h. m. d. h. m. 1574. d. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. m. d. h. h. h. h. d. h. h. h. h. | L 5 |
| March. Typ. 24 10 20 24 7 04 March. JAN. 22 13 4 23 | 3 13 |
| 7 7 Trp 94 10 20 01 5 91 Table 177 | |
| 1 0. 1. 11. 1 12. 1 20 21.1 | |
| 11 11 6 MAR 25 23 22 25 17 41 11 4 33 MAR 22 14 32 22 2 | |
| APRIL 21 12 6 24 6 48 APRIL 21 3 16 21 | 7 9 |
| MAY . 24 0 50 28 21 2 MAY . 20 16 0 20 1 | |
| Trury 90 19 94 00 10 0 | 7 80 |
| July . 22 2 18 22 8 37 June . 19 4 44 18 2 | 87 |
| 0 (590 40 540 90) | 3 7 |
| Aug. 20 15 2 20 18 45 Aug. 17 6 12 16 1 | |
| Super 10 9 40 10 0 0 | 3 29 |
| Oct 18 16 30 18 22 29 Oct 15 7 40 14 2 | |
| Nov 17 5 14 17 10 57 Nov (18 20 24 18 1 | |
| DEC 16 17 58 16 22 38 0 0 28 14 46 28 13 | |
| DEC. 13 9 8 13 1 | |
| 1572. Jan 15 6 48 15 9 35 | • |
| FEB 18 19 27 18 19 50 1575. JAN 11 21 58 12 | |
| 10 16 55 MAR 14 8 11 14 5 40 B. Fr. 10 10 97 10 00 | 34 |
| APRIL 12 20 55 12 15 84 44 45 35 | |
| May . 12 9 89 12 2 13 | - 1 |
| JUNE. (10 22 28 10 14 20 | |
| * 1 O 1(40 to 40) 20 22 53 H | 82 |
| JULY. 10 11 7 10 4 14 | |
| [AUG O 20 01 O 19 40 | - 1 |
| SEPT. (12 55 7 12 15 | 43 |
| OCT 1 1 19 7 4 54 | |
| 1 Nov. 5 14 8 5 20 50 | 41 |
| Dec. 5 2 48 5 11 80 _ | |
| O (19 21 10 19 11 59 DEC. 2 17 57 2 12 | 12 |
| 1573. JAN 8 15 82 4 0 82 1576. JAN. 1 6 41 1 7 | 89 |
| D. Feb. 2 4 16 2 11 58 A.G. JAN 80 19 25 81 2 | 51 |
| 10 22 41 Mar. 8 17 0 8 21 42 Feb. 29 8 9 29 20 | |
| APRIL 2 5 44 2 6 22 10 16 11 MAR. 29 20 54 80 10 | 44 |
| May 1 18 28 1 14 85 0 18 15 16 18 8 | 11 |
| MAY . 181 7 12 30 23 13 APRIL 128 9 38 28 22 | 11 |
| O 15 1 84 15 11 87 MAY . 27 22 22 28 7 | 5 |
| June . 129 19 56 29 9 17 June . 26 11 6 26 14 | 25 |
| July . 29 8 40 28 21 34 July . 25 28 50 25 21 | 14 |
| Aug 27 21 24 27 12 24 Aug 24 12 84 24 4 | 48 |
| SEPT. 26 10 8 26 5 28 SEPT. 23 1 18 22 18 | 45 |
| | 58 |
| Nov. 24 11 86 24 17 41 Ocr 22 14 2 22 1 | 7 |
| O 5 5 58 8 21 6 Nov. 21 2 46 20 15 | 11 |
| DEC. 121 0 20 24 10 28 DEC. 20 15 30 20 7 | 47 |
| | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Fall Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|------------------|------------------------------------|------------------------------------|----------------------------|-----------|------------------------------------|----------------|
| A.D. 1577. | | d. h. m. | d. h. m. | A.D. 1580. | | d. h. m. | d. h. m. |
| F. | JAN | 19 4 14 | 19 2 7 | C.B. | JAN | 516 19 24 | 16 16 51 |
| d. h . m . | FEB | 17 16 58 | 17 20 54 | March. | 0 | LB1 18 46 | 81 28 52 |
| 10 21 59 | MAR | 19 5 42 | 19 14 39 | d. h. m. | FEB | 15 8 8 | 15 8 56 |
| | 0 | (3 0 4 | 2 22 11 | 10 15 26 | MAR | 15 20 52 | 15 15 27 |
| | APRIL | (17 18 26 | 18 6 13 | | APRIL | 14 9 86 | 14 8 45 |
| | MAY. | 17 7 10 | 17 19 4 | | MAY. | 18 22 20 | 18 17 10 |
| 1 | June. | 15 19 54 | 16 5 23 | | JUNE . | 12 11 4 | 12 7 45 |
| | JULY. | 15 8 3 8 | 15 13 54 | | JULY . | 11 23 48 | 11 28 8 |
| | Aug | 13 21 22 | 13 21 38 | | 0 | £26 18 1 0 | 26 12 45 |
| | SEPT | £12 10 6 | 12 5 39 | | Aug | 10 12 32 | 10 14 89 |
| | 0 | 27 4 23 | 27 3 0 | | SEPT | 9 1 16 | 9 5 42 |
| | Ост | 11 22 50 | 11 14 44 | | Oct | 8 14 0 | 8 19 58 |
| | Nov | 10 11 34 | 10 1 30 | | Nov | 7 2 44 | 7 9 4 |
| , , | DEC | 10 .0 18 | 9 14 15 | | DEC. | 6 15 28 | 6 21 19 |
| | _ | | | 1581. | JAN | (5 4 18 | 5 8 40 |
| 1578. | JAN | 8 13 3 | 8 4 58 | A. | 0 | 19 22 85 | 19 23 40 |
| E. | FeB | 7. 1 47 | 6 21 17 | | FEB. | 8 16 57 | 8 19 8 |
| 11 3 43 | MAR | 8 14 31 | 8 14 30 | 10 21 15 | MAR. | 5 5 41 | 5 4 58 |
| | . 0 | 28 8 53 | 23 14 42 | 10 21 10 | Arril | 3 18 25 | 8 14 29 |
| | APRIL | 7, 3 15 | 7 7 39 | | MAY. | 3 7 9 | 8 0 24 |
| | MAY . | 6 15 59 | 6 23 43 | | June . | 1 19 58 | 1 11 80 |
| | JUNE . JULY . | 5 4 48 | 5 13 58 | | 00.11.2. | c 1 8 87 | 1 0 22 |
| | Aug | 4 17 27 | 5 2 6 | | July O | 16 2 59 | 16 5 54 |
| | SEPT. | 3 6 11 | 3 12 30 | | OULL O | 30 21 21 | 30 15 8 |
| | 0 | 1 18 55 | 1 21 51 | | Aug. | 29 10 5 | 29 7 28 |
| | J | - | 16 3 1 | , | SEPT. | 27 22 49 | 28 0 18 |
| | Ост | 30 20 23 | 1 7 3 30 16 45 | | Ост. | 27 11 33 | 27 16 59 |
| | Nov | 29 9 7 | 30 16 45 29 3 19 | | Nov. | 26 0 17 | 26 8 84 |
| | DEC | 28 21 51 | 28 15 0 | 1 | DEC. | 25 18 1 | 25 22 85 |
| | | | | | | | |
| 1579. | JAN | 27 10 35 | 27 3 46 | 1500 | 0 | $\{9,728$ | 9 0 26 |
| D. | FEB | 25 23 19 | 25 17 39 | 1582. G. | JAN | 24 1 45 | 24 10 46 |
| 11 9 37 | MAR | 27 12 3 | 27 8 32 | 11 3 4 | FEB. | 22 14 29 | 22 21 14 |
| | APRIL | 26 0 47 | 26 0 9 | Tr 9 4 | MAR. | 24 8 18 | 24 6 12 |
| | MAY. | 25 13 31 | 25 15 53 | | APRIL MAY | 22 15 57 | 22 14 20 |
| | JUNE . | 24, 2 15 | 24 7 4 | | June . | 22 4 41 | 21 22 25 |
| | JULY. | 23 14 59 | 23 21 5 | | JULY. | 20 17 25 | 20 7 82 |
| | Aug | 22 3 43 | 22 9 48 | | Aug. | | 19 18 84 |
| | SEPT | 20 16 27 | 20 21 25 | | SEPT. | 18 18 58 | 18 8 8 |
| | Ocr. | 20, 5 11 | 20 8 23 | | Oct. | 16 20 21 | 17 0 14 |
| | Nov. | 18 17 55 | 18 19 8 | . 1 | Nov. | 16 20 21 15 9 5 | 16 18 8 |
| | DEC | 18 6 39 | 18 5 56 | , , | DEC. | | 15 12 41 |
| | | 1 | - 11 | ' 1 | | 14 21 49 | 15 6 26 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (() Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon, (O Full Ecl.) |
|--|--|--|---|--|--|---|--|
| A.D. 1583. F. March. d. h. m. 11 8 52 | JAN FEB MAR APRIL MAY O JUNE . JULY . AUG SEPT OCT Nov | d. h. m. 18 10 34 11 23 18 18 12 2 12 0 46 (11 18 80 (26 7 52 10 2 14 9 14 58 8 3 42 6 16 26 6 5 10 (4 17 54 | d. h. m. 18 22 19 12 11 40 18 22 29 12 7 18 11 14 85 26 18 28 9 21 85 9 5 18 7 14 47 6 2 58 5 18 12 4 12 8 | A.D. 1586. n. March. d. h. m. 11 2 19 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT | d. h. m. 10 1 44 8 14 28 10 3 12 8 15 56 8 4 40 6 17 24 6 6 8 4 18 52 3 7 36 2 20 20 { 1 9 4 30 21 48 | d. h. m. 9 20 51 8 15 24 10 9 39 9 2 17 8 16 2 7 4 2 6 13 26 4 21 31 3 5 32 2 14 11 1 0 11 30 11 58 |
| 1584. E.D. 10 14 41 | DEC JAN FEB MAR APRIL O MAY . JUNE . | 19 12 16 4 6 38 2 19 28 1 8 7 { 1 20 51 { 81 9 35 29 22 19 { 14 16 41 { 29 11 8 27 23 47 | 19 10 44 4 7 24 8 2 86 1 20 8 2 10 45 81 22 25 EO 7 29 14 18 58 29 14 49 27 21 26 | 1587. A. 11 8 8 | JAN FEB O MAR APPIL MAY . JUNE . JULX . | 28 23 16 27 12 0 (14 6 22) 29 0 44 27 13 28 27 2 12 25 14 56 25 3 40 | 28 17 1 27 9 36 14 14 23 29 2 40 27 19 14 27 10 25 25 23 40 25 11 2 |
| | JULY . AUG SEPT OCT O Nov DEC | 27 12 81 26 1 15 24 18 59 24 2 48 7 21 5 22 15 27 22 4 11 | 27 4 29 25 18 1 24 0 1 28 14 2 8 1 55 22 6 55 22 1 50 | | Aug O SEPT OCT Nov DEC | 28 16 24 (7 10 46 (22 5 8 21 17 52 20 6 36 19 19 20 | 28 21 '8 6 22 46 22 6 28 21 16 5 20 2 19 19 18 27 |
| 1585. c. 10 20 30 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O NOV DEG | 20 16 55 19 5 89 20 18 28 19 7 7 4 1 29 18 19 51 17 8 85 16 21 19 15 10 8 18 22 47 {18 11 31 28 5 58 12 0 15 11 12 59 | 20 21 20 19 15 42 21 7 87 19 20 80 8 18 86 19 6 82 17 14 88 16 21 88 15 4 42 18 12 59 12 28 18 28 12 21 11 11 59 11 8 21 | 1588. G.F. 10 18 57 | JAN FEG O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | $\begin{array}{c} 18 & 8 & 5 \\ 16 & 20 & 49 \\ 2 & 15 & 11 \\ 17 & 9 & 38 \\ 15 & 22 & 17 \\ 15 & 11 & 1 \\ 18 & 28 & 45 \\ 18 & 12 & 29 \\ 12 & 1 & 18 \\ 26 & 19 & 35 \\ 10 & 18 & 57 \\ 10 & 2 & 41 \\ 8 & 15 & 25 \\ 8 & 4 & 9 \\ \end{array}$ | 18 1 34 16 14 39 3 4 32 17 4 45 15 19 46 15 11 19 14 2 49 13 17 34 12 7 10 26 6 10 10 19 33 10 7 4 8 18 7 8 5 0 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|--------|------------------|-------------------|
| A.D. 1589. | | d. h. m. | d. h. m. | A.D. 1592, | | d. h. m. | d. h. m. |
| E. | JAN | 6 16 54 | 6 15 51 | B.A. | JAN | 484 | 4 18 51 |
| March. | FEB | 5. 5 38 | 5 2 42 | March. | FEB. | 4 8 4 2 20 48 | |
| 10 19 45 | MAR. | 6 18 22 | 6 13 41 | d. h. m. 10 13 12 | MAR. | 3 9 32 | 3 9 31 30 |
| | APRIL | 5 7 6 | 5 1 14 | 10 10 12 | | | |
| | MAY . | 4 19 50 | 4 13 48 | | APRIL | 1 22 16 | 2 7 4 |
| ĺ | JUNE. | 3 8 34 | 3 · 3 37 | | MAY . | 1 11 0 | 1 14 53 |
| ĺ | July. | 2 21 18 | 2 18 37 | | | (30 23 44 | 30 21 48 |
| | | (110 2 | 1 10 14 | | -0 | 14 18 6 | 15 0 4 |
| | Aug. O | 16 4 24 | 15 20 20 | · | JUNE. | (29 12 28 | 29 4 57 |
| l | | 30 22 46 | 31 1 49 | | JULY. | 29 1 12 | 28 13 24 |
| | SEPT | 29 11 30 | 29 16 46 | | Aug. | 27 13 56 | 27 0 12 |
| | Ост. | 29 0 14 | 29 6 44 | | SEPT | 26 2 40 | 25 13 58 |
| | Nov. | 27 12 58 | 27 19 41 | | Oct | 25 15 24 | 25 6 42 |
| | DEC. | 27 1 42 | 27 7 32 | | Nov. | 24 4 8 | 24 1 35 |
| 1 | | | 21 1 02 | | 20 | 8 22 30 | 8 20 85 |
| 1590. | JAN | 25 14 27 | 25 18 24 | | DEC | 23 16 52 | 28 21 6 |
| D. | FEB. | 24 3 11 | 24 4 22 | 1593. | JAN. | 22 5 36 | 22 15 37 |
| 11 1 34 | MAR | 25 15 55 | 25 13 43 | G. | FEB. | 20 18 20 | 21 7 45 |
| | APRIL | 24 4 39 | 23 23 6 | 10 19 1 | MAR. | | 22 20 51 |
| | MAY . | 23 17 23 | 23 9 17 | 10 10 1 | APRIL | 22 7 4 20 19 48 | |
| | June . | 22 6 7 | 21 21 3 | | MAY. | 20 19 46 | 21 7 2 20 15 3 |
| 1 | 0 | 7 0 29 | 7 5 54 | | June . | 18 21 16 | 18 21 52 |
| | JULY. | 21 18 51 | 21 10 51 | | July. | 18 10 0 | 18 4 34 |
| 1 | Aug | 20 7 35 | 20 2 31 | | Aug. | 16 22 44 | 16 12 19 |
| [| SEPT | 18 20 19 | 18 19 25 | | SEPT. | 15 11 28 | 14 22 4 |
| | Ocr | 18 9 3 | 18 12 35 | | Oct. | 15 0 12 | 14 10 36 |
| | Nov | 16 21 47 | 17 5 4 | | Nov. | 13 12 56 | 13 2 9 |
| | DEC | (16 10 31 | 16 20 6 | | DEC. | 13 1 40 | 12 20 12 |
| | 0 | [31 4 53 | 30 20 20 | | | 20 1 10 | 10 10 12 |
| 1 | | | - | 1594. | JAN | 11 14 25 | 11 15 85 |
| 1591. c. | JAN | 14 23 15 | 1 5 · 9 16 | F. | FEB | 10 3 9 | 10 10 86 |
| [| FEB | 13 11 59 | 13 20 29 | 11 0 50 | MAR | 11 15 53 | 12 3 47 |
| 11 7 23 | MAR. | 15 0 43 | 15 6 0 | | APRIL | (10 4 37 | 10 18 8 |
| i | APRIL | 13 13 27 | 13 14 15 | | 0 | 24 22 59 | 24 16 33 |
| 1 | MAY. | 13 2 11 | 12 22 4 | | MAY . | 9 17 21 | 10 5 29 |
| 1 | June . | 11 14 55 | 11 6 23 | | JUNE. | 8 6 5 | 8 14 23 |
| | O T | 26 9 17 | 26 18 34 | | July. | 7 18 49 | 7 21 49 |
| 1 | JULY, | 11 3 39 | 10 16 15 | | Aug | 6 7 33 | 6 4 53 |
| 1 | Aug | 9 16 23 | 9 4 30 | | SEPT | 4 20 17 | 4 12 37 |
| 1 | SEPT. | 8 5 7 | 7 19 27 | | Oct | 5 4 9 1 | 3 21 56 |
| | Oct | 7 17 51 | 7 12 43 | | 0 | 19 3 23 | 19 8 44 |
| 1 | Nov Dec | 6 6 35 | 6 7 19 | | Nov | 2 21 45 | 2 9 29 |
| | DEC. | 5 19 19 | 6 1 47 | | DEC. | § 2 10 29 | 1 23 34 |
| | J | 20 13 41 | 20 5 51 | • | | 81 23 13 | 31 16 0 |
| 1 | | | 110 | | | | |

| 1 | | | | | | | • |
|----------------------------|--------|------------|-------------------------------|---|--------|-----------------------------------|----------------|
| Mean Vernal Equinox. | Month. | | True New Moon.)(O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon, |
| A.D. 1595. | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| Е. | JAN. | . 30 11 58 | 30 9 58 | 1598. | - | | |
| March. | FEB. | 00 11 00 | 00 0 .,0 | | JAN. | 27. 8 8 | 27 1 39 |
| d. h. m | | (1 0 42 | 1 4 22 | March. | 0 | 10 21 30 | 11 7 42 |
| 11 6 38 | MAR. | 30 13 26 | 1 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | FEB | 25 15 52 | 25 12 19 |
| | 0 | (14 7 48 | 1 | 11 0 5 | APRIL | 27 4 36 | 26 23 14 |
| | APRIL | 29 2 10 | 29 13 12 | | MAY. | 25 17 20 25 6 4 | 25 10 58 |
| | MAY . | 1 | 29 2 3 | | JUNE . | | 24 28 54 |
| 1 | JUNE . | | 27 12 30 | | JULY . | 23 18 48 23 7 32 | 23 14 14 |
| | JULY . | | 26 21 19 | | ı | | 28 5 89 |
| | Aug. | | 25 5 26 | | Aug. | 21 20 16 | 6 20 28 |
| | SEPT. | 23 17 50 | 28 18 50 | | SEPT. | | 21 21 31 |
| | 0 | (8 12 12 | 8 10 24 | | Oct. | | 20 13 7 |
| | Oct | 23 6 31 | 22 28 15 | | Nov. | 19 21 44 | 20 8 55 |
| | Nov. | 21 19 18 | 21 10 12 | | DEC. | 18 10 28 | 18 17 38 |
| | DEC | 21 8 2 | 20 22 54 | | LOEC. | 17 28 12 | 18 6 10 |
| | | | 20 12 01 | 1599. | JAN. | (16 11 56 | 16 17 82 |
| 1596. | JAN | 19 20 46 | 19 13 18 | G. | 0 | 81 6 18 | 31 7 27 |
| D.C. | FEB | 18 9 30 | 18 5 6 | | FEB | 15 0 40 | 15 8 48 |
| 10 12 27 | MAR | 18 22 14 | 18 21 47 | 11 5 51 | MAR. | 16 13 24 | 16 13 10 |
| | | (2 16 36 | 2 22 43 | 0 01 | APRIL | 15 2 8 | 14 22 12 |
| | APRIL | 17 10 58 | 17 14 29 | , | MAY. | 14 14 52 | 14 7 88 |
| 1 | MAY . | 16 28 42 | 17 6 21 | | June . | 13 3 36 | 12 18 21 |
| | JUNE. | 15 12 26 | 15 20 38 | | July . | (12. 16 20 | 12 7 2 |
| | JULY. | 15 1 10 | 15 9 89 | | 0 | 27 10 42 | 27 18 24 |
| | Aug | 18 18 54 | 18 19 52 | | Aug. | 11 5 4 | 10 21 50 |
| | SEPT | (12 2 38 | 12 5 46 | | SEPT. | 9 17 48 | 9 14 28 |
| | 0 | 26 21 0 | 26 10 23 | | Ocr. | 9 6 82 | 9 7 47 |
| | Ocr | 11 15 22 | 11 15 26 | | Nov. | 7 19 16 | 8 0 58 |
| | Nov | 10 4 6 | 10 1 29 | | DEC. | 7 8 0 | 7 17 8 |
| | DEC | 9 16 50 | 9 12 14 | | | | |
| 4 | _ | | . | 1600. | JAN. | 5, 20 45 | 6 7 16 |
| 1597. B. | JAN | 8 5 35 | 7 23 48 | F.E. | 0 | 20 15 7 | 20 8 87 |
| | FEB | 6 18 19 | 6 12 10 | | FRB | 4 9 29 | 4 19 27 |
| 10 .18 16 | MAR | 8 7 3 | 8 1 29 | 10 11 48 | MAR | 4 22 18 | 5 5 86 |
| | APRIL | 6 19 47 | 6 15 46 | 1 | APRIL | 8 10 57 | 8 14 14 |
| | MAY. | 6 8 81 | 6 6 51 | | MAY . | 2, 28 41 | 2 21 59 |
| | JUNE. | 4 21 15 | 4 22 21 | | JUNE - | 1, 12 25 | 1 5 45 |
| | JULY. | 4 9 59 | 4 18 85 | | July . | 1 1 9 | 30 14 37 |
| | A.ug. | 2 22 43 | 3 3 58 | | | 30, 13 58 | 80 1 88 |
| | SEPT. | 1 11 27 | 1 17 12 | , , | Aug | 29. 2 87 | 28 15 11 |
| | Ocr | 1 0 11 | 1 5 25 | 1 1 1 | SEPT. | 27.15 21 | 27 7 81 |
| | | 80.12 55 | 30 16 54 | | Oct | 27 4 5 | 27 1 46 |
| | Nov | 29. 1 39 | 29 4 2 | | Nov. | 25,16 49 | 25 20 40 |
| | DEC | 28-14 28 | 28 14 55 | *** * **** | DEC. | 25, 5 88 | 25 14 41 |
| | | | H | ! | | P. 18 | |

| Mean | | Mean New | Trae New | Mean | Month | Mean New | True New |
|--------------------|-------------|---------------------|------------------------|--------------------|----------------|--|-----------------|
| Vernal Equinox. | Month. | (O Full Ecl.) | Moon. (O Full Ecl.) | Vernal Equinox. | Month. | (O Full Ecl.) | (O Full Ecl.) |
| A.D. 1601. | | d. h. m. | d. h. m. | A.D. 1604. | | d. h. m. | d. h. m. |
| D. | JAN | 23 18 18 | 24 6 42 | A.G. March. | JAN | 21 9 28 | 21 4 58 |
| March. $d. h. m.$ | FEB | 22 7 2 | 22 19 58 | d. h. m. | FEB | 19 22 12 | 19 28 2 |
| 10 17 31 | MAR | 23 19 46 | 24 6 34 | 10 10 58 | MAR | 20 10 56 | 20 16 54 |
| | APRIL | 22 8 30 | 22 15 1 | | APRIL | 18 23 40 | 1 9 9 16 |
| | May . | 21 21 14 | 21 22 8 | | May . | 18 12 24 | 18 28 28 |
| | 0 | (5 15 36 | 5 19 53 | | June . | 17 1 8 | 17 11 2 |
| | JUNE . | 20 9 58 | 20 4 58 | | JULY. | 16 18 52 | 16 20 41 |
| | JULY. | 19 22 42 | 19 12 37 | | Aug | 15 2 36 | 15 5 18 |
| | Aug | 18 11 26 | 17 22 9 | | SEPT | 13 15 20 | 18 18 85 |
| | SEPT | 17 0 10 | 16 10 28 | | Ocr | 13 4 4 | 12 22 87 |
| | Oct | 16 12 54 | 16 1 51 | | Nov | 11 16 48 | 11 8 55 |
| | Nov | (15 1 38 | 14 19 54 | | DEC | 11 5 32 | 10 20 45 |
| | 0 | 29 20 0 | 29 19 41 | | | | |
| | DEC | 14 14 22 | 14 15 22 | 1605. | JAN | 9 18 16 | 9 10 10 |
| 1000 | _ | | 42 40 00 | F. | 773 | 8 7 0 | 8 1 5 |
| 1602. c. | JAN | 13 3 6 | 13 10 36 | 10 16 47 | | (9 19 44 | 9 17 8 |
| | FEB | 11. 15. 50 | 12 4 2 | 10 10 41 | MAR | 24 14 6 | 24 22 81 |
| 10 23 20 | MAR | 13 4 34 | 13 18 36 | | APRIL | 8 8 28 | 8 9 40 |
| | APRIL | 11 17 18 | 12 6 6 | • | MAY. | 7 21 12 | 8 1 54 |
| | MAY. | 11 6 2 | 11 14 59 | | JUNE. | 6 9 56 | 6 17 0 |
| | O T | (26 0 24 | 25 20 35 | | July. | 5 22 40 | 6 6 28 |
| | JUNE. | 9 18 46 | 9 22 14 9 4 53 | | Aug | 4 11 24 | 4 18 18 |
| | JULY. | 9 7 30 7 20 14 | | | SEPT | (3 0 8 | 8 4 44 |
| | Aug Sept | 6 8 58 | | | 0 | 17 18 30 | 17 6 7 |
| | Oct. | 5 21 42 | | | Ocr | 2 12 52 | 2 14 42 |
| | Nov. | (4 10 26 | | | 001. | (1 1 86 | 1 0 45 |
| , | 0 | 19 4 48 | 3 22 5 19 10 35 | | Nov | 80 14 20 | 80 11 15 |
| | 70 | 3 23 10 | 3 15 0 | | DEC | 30- 8 4 | 29 22 28 |
| 1603. | | | | | Duc. | 00 0 1 | 20 22 20 |
| В. | JAN | 2 11 55 | 2 9 51 | 1606. | т | 00.45.40 | 00 10 11 |
| | FEB | 1 0 39 | 1 5 9 | E. | JAN | 28 15 49 27 4 88 | 28 10 11 |
| 11 5 9 | MAR. | 2 13 23 | 2 23 17 | | FEB | | 26 22 44 |
| | APRIL | 1 2 7 | 1 15 1 | 10 22 36 | O M., | 18 22 55 | 14 12 82 |
| 1 | | (30 14 51 | (1 3 47 | 20 22 00 | MAR APRIL | | 28 12 18 |
| 1 | , O | 15 9 13 | 15 1 41 | | | 1 | 27 2 40 |
| | MAY . | (30 3 35 | (30 13 49 | | MAY. | 26 18 45 | 26 17 51 |
| | JUNE | 28 16 19 | 28 21 53 | | JUNE. JULY. | 25 7 29 | 25 9 15 |
| | JULY. | 28 5 3 | 28 5 6 | | Aug. | 24 20 18 23 8 57 | 25 0 15 |
| | Aug Sept | 26 17 47 | 26 12 31 | | | | 28 14 19 |
| | OCT. | 25 6 31 24 19 15 | 24 21 6 | | O Sept | $\begin{cases} 7 & 8 & 19 \\ 21 & 21 & 41 \end{cases}$ | 6 19 48 |
| | | (8 13 37 | 24 7 36 | | Oct. | l ' | 22 8 18 |
| | Nov | 23 7 59 | 8 20 32 | | Nov. | 21 10 25 19 23 9 | 21 15 25 |
| | DEC. | 22 20 43 | 22 20 27 | | DEC. | 1 | 20 2 54 |
| | | 22 20 45 | 22 11 42 | , | | 19 11 58 | 19 14 0 |
| per construction | | | | | | | |

| | 1 | 1 | 1 | 11 | | | |
|----------------------------|----------|---|-------------------------------------|----------------------------|----------------|--|-----------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon.)(O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| A.D. 1607. | | d. h. m. | d. h. m. | A.D. 1610. | | d. h. m. | d. h. m. |
| March. | JAN | 18 0 37 | 18 0 44 | G. | JAN. | 14 15 47 | |
| d. h. m. | FEB | 16 13 21 | 16 11 18 | March. | FEB. | 13 4 31 | 15 3 9 |
| 11 4 24 | MAR | 18 2 5 | 17 21 42 | d. h. m. 10 21 51 | MAR. | 14 17 15 | 13 17 48 |
| | APRIL | 16 14 49 | 16 8 39 | | APRIL | 13 5 59 | 15 5 37 |
| | MAY . | 16 3 33 | 15 20 42 | | MAY. | 12 18 43 | 13 14 55 |
| | JUNE . | 14 16 17 | 14 10 11 | | JUNE . | | 12 22 28 |
| 4 | JULY . | 14 5 1 | 14 1 4 | | O | $\begin{bmatrix} 11 & 7 & 27 \\ 26 & 1 & 49 \end{bmatrix}$ | 11 5 14 |
| 1 | Aug | (12 17 45 | 12 16 55 | | JULY. | 10 20 11 | 26 6 84 |
| 1 | 0 | 27 12 7 | 27 4 7 | | Aug. | 9 8 55 | 10 12 18 |
| 1 | SEPT | 11 6 29 | 11 8 58 | | SEPT. | 7 21 39 | 8 20 47 |
| | Ocr | 10 19 13 | 11 0 31 | | Oct | 7 10 23 | 7 7 41 |
| | Nov | 9 7 57 | 9 15 6 | | Nov. | 5 23 7 | 6 21 37 5 14 31 |
| | DEC | 8 20 41 | 9 4 23 | | DEC. | (51151 | 5 9 81 |
| | | | 1 | | 0 | 20 6 13 | 20 5 33 |
| 1608. | JAN | 7 9 23 | 7 16 27 | Ì | | (20 015 | 20 9 99 |
| C.B. | FEB | 5 22 10 | 6 8 9 | 1011. | T | 4 0 00 | |
| 10 10 18 | MAR | 6 10 54 | 6 12 45 | F. | JAN | 4 0 36 | 4 5 8 |
| | APRIL | 4 23 38 | 4 21 38 | 11 3 40 | FEB | 2 13 20 | 2 23 36 |
| | MAY. | 4 12 22 | 4 6 81 | 11 0 40 | MAR. | 4 2 4 | 4 15 37 |
| | JUNE . | 3 1 6 | 2 16 18 | | APRIL | 2 14 48 | 3 4 33 |
| | Juny . | (2 18 50 | (2 3 48 | | MAY . | 2 8 32 | 2 14 35 |
| | 0 | 17 8 12 | 17 18 16 | | | \\ 31 16 16 | 31 22 29 |
| | Aug | 5 1 2 84 | 81 17 82 | | JUNE. JULY. | 80 5 0 | 30 5 17 |
| | 2200 | \20 15 18 | 30 9 23 | | Aug. | 29 17 44 | 29 12 6 |
| | SEPT | 29 4 2 | 29 2 41 | 9 \ | SEPT. | | 27 20 3 |
| | Oct | 28 16 46 | 28 20 22 | , | Oct | 26, 19 12 | 26 6 1 |
| | Nov | 27 5 30 | 27 13 20 | | Nov. | 26 7 56 24 20 40 | 25 18 44 |
| | DEC | 26 18 14 | 27 4 41 | | DEC. | 24 20 40 | 24 10 19 |
| | _ | 210 TO 00 | 10 4 10 | | DEC. | 24, 024 | 24 4 17 |
| 1609. | O Jan | $ \begin{cases} 10 & 12 & 86 \\ 25 & 6 & 59 \end{cases} $ | 10 4 40 | 1010 | ~ | 00.00.0 | |
| A. | ~ | 25 6 59 28 19 48 | 25 17 56 | 1612. E.D. | JAN | 22 22 9 | 22 23 28 |
| 10 16 2 | MAR. | 25 8 27 | 24 4 59 | | FEB | 21 10 58 | 21 18 14 |
| 10 10 2 | APRIL | 28 21 11 | 25 14 9 | 10 9 29 | MAR | 21 23 37 | 22 11 10 |
| | MAY . | 28 9 55 | 23 22 8 28 5 80 | | APRIL | 20 12 21 | 21 1 23 |
| | JUNE . | 21 22 89 | " " " | | 0 | 5 6 48 | 4 28 51 |
| | | (617 1 | 21 18 85 7 1 88 | | MAY . | 20 1 5 | 20 12 41 |
| | July. | 21 11 28 | 20 28 18 | | JUNE. JULY. | 18 13 49 | 18 21 40 |
| | Aug. | 20 0 7 | 20 25 18 19 11 84 | | | 18 2 33 | 18 5 15 |
| | SEPT. | 18 12 51 | 18 2 40 | | Aug SEPT | 16 15 17 15 4 1 | 16 12 36 |
| | Oct. | 18 1 85 | 17 20 15 | | OCT. | 15 4 1 | 14 20 40 14 6 17 |
| | Nov. | 16 14 19 | 16 15 10 | | 007. | 29 11 7 | 29 16 40 |
| - | | (16 8 8 | 16 9 57 | ٠ | Nov. | 18 5 29 | 12 18 0 |
| | | 80 21 25 | 80 14 88 | | DEC. | 12 18 18 | 12 10 0 12 8 2 |
| | | | 20 IF 00 | | | | |
| ' | | | Į I | | | | 3. J. S. F. W W. |

| Vermal Equinos. Month Equinos. Mon | ; | | ī | | 1 | 1 | | |
|--|----------------|--------|-------------------|----------------|----------------|--------|-------------------|----------------|
| Equinox. | | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
| 1613. | | 12021 | (O Full Ecl.) | (O Full Ecl.) | Equinox. | | (O Full Ecl.) | (O Full Ecl.) |
| 1613. | A D | | | | Λ D | | ~ ~ | |
| March. d. h. m. Feb. 9 9 41 9 17 46 10 15 17 Mar. 11 8 25 11 11 43 April 9 21 9 10 4 43 May 9 58 9 20 1 June 7 22 37 8 8 55 July 7 11 21 7 19 37 Aug. 6 0 5 6 4 46 Sept. 4 12 49 4 18 19 Oct. 4 18 3 3 22 9 O 18 19 55 18 17 18 Dec. 2 3 1 19 1 Dec. 2 3 1 19 1 Dec. 2 3 1 19 1 10 21 6 Mar. 30 4 30 29 21 35 April 28 18 22 21 14 May 28 7 26 28 12 38 June 26 20 10 27 3 7 July 26 8 54 26 16 3 Aug. 22 23 38 37 4 1615. A. 19 18 19 19 8 38 Feb. 22 23 6 22 23 58 Nov. 21 11 50 21 10 22 Dec. 21 0 34 20 21 13 1615. A. 19 18 19 9 12 April 18 3 3 17 20 29 11 2 25 May 17 16 15 17 13 30 June 16 4 59 16 4 47 July 15 17 3 15 20 22 May 17 16 15 17 13 30 June 16 4 59 16 4 47 July 15 17 38 50 8 Aug. 14 6 72 55 Aug. 17 16 15 17 13 30 June 16 4 59 16 4 47 July 15 17 38 50 8 Aug. 14 6 22 18 22 Aug. 17 16 15 17 13 30 June 16 4 59 16 4 47 July 15 17 38 50 8 Aug. 14 6 72 55 Aug. 17 16 15 17 13 30 June 16 4 59 16 4 47 July 15 17 18 50 8 Aug. 14 6 72 72 12 Aug. 17 16 15 17 18 30 June 16 4 59 16 4 47 July 15 17 18 50 8 Aug. 17 17 17 18 15 Aug. 17 18 15 20 20 Aug. 17 18 15 20 20 Aug. 18 19 19 19 Aug. 19 19 19 19 Aug. 19 19 19 Aug. 19 19 19 Aug. 19 19 19 Aug. 19 19 19 Aug. 10 10 10 Aug. 10 10 | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| A. h. m. AFRI. 11 8 25 11 11 48 AFRIL 9 21 9 10 4 48 AFRIL 6 12 19 6 6 6 6 6 6 6 6 6 | | JAN | 11. 6 57 | 11 0 11 | G.F. | JAN | 8 22 7 | 8 23 52 |
| 10 15 17 | d, h , m . | FEB | 9.19 41 | 9 17 46 | Monah | FEB | 7 10 51 | 7 10 20 |
| APRIL O 24 15 31 24 18 44 MAX | | MAR | 11 8 25 | 11 11 43 | | 0 | 22 5 13 | 22 15 24 |
| MAY . 9 9 58 9 20 1 JUNE . 7 22 37 8 8 55 JULY . 7 11 21 7 19 37 AUG . 6 0 5 6 4 46 SEPT 4 12 49 4 18 19 OCT { 4 1 83 3 322 9 O { 18 19 55 18 17 58 Nov . 2 14 17 2 7 55 DEC . { 2 8 1 1 19 1 S1 15 45 83 1 7 34 1614. B. FEB 28 17 14 28 12 51 10 21 6 MAR . 30 5 58 30 4 57 O { 14 0 20 14 6 88 APRIL 28 18 22 82 1 14 MAY . 28 7 26 28 12 58 JUNE . 26 20 10 27 3 17 JULY . 26 8 54 26 16 3 AUG . 24 21 88 25 3 21 SEPT 20 11 20 22 DEC . 21 10 34 20 21 13 1615. A. G. SEPT 21 10 22 DEC . 21 0 34 20 21 13 1615. A. FEB 18 2 3 17 20 29 DEC . 21 0 34 20 21 13 1615. A. FEB 18 2 3 17 20 29 DEC . 21 0 34 20 21 13 1618. JUNE . 19 14 47 19 9 12 APRIL 28 18 49 19 9 12 APRIL 18 3 11 7 22 52 MAY . 17 16 15 17 13 30 JUNE . 16 4 59 16 4 47 JULY . 16 15 17 48 15 20 8 AUG . 14 6 27 14 10 53 SEPT 10 21 8 22 NAY . 12 29 9 12 18 AUG . 14 6 27 14 10 53 SEPT 10 21 8 22 NAY . 17 16 15 17 48 15 20 8 AUG . 14 6 27 14 10 53 SEPT 10 21 8 22 SEPT 9 10 21 82 SEPT 9 10 21 82 SEPT 10 20 22 SEPT 20 132 10 22 JULY . 23 0 4 22 13 47 OCT | | APRIL | (9219 | 10 4 48 | | MAR | 7 28 85 | 7 20 83 |
| JUNE . 7 22 37 8 8 55 JULY . 7 11 21 7 19 37 AUG 6 0 5 6 4 46 SEPT 4 12 49 4 18 19 OCT (4 1 83 3 22 9 O (18 19 55 18 17 58 Nov 2 14 17 2 7 55 DCC (2 2 3 1 1 19 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | | 0 | 24 15 31 | 24 13 44 | V V | APRIL | 6 12 19 | 6 6 55 |
| July . 7 11 21 7 19 37 Aug 6 0 5 6 4 46 Sept 4 12 49 4 18 19 Oct { 4 1 83 3 22 9 O | | MAY . | 9. 9 53 | 9 20 1 | | MAY. | 6 1 3 | 5 18 4 |
| AUG 6 0 5 6 4 46 SEPT 4 12 49 4 18 19 OCT { 4 1 83 3 22 9 O | | JUNE . | 7 22 37 | 8 8 55 | | June - | | 4 6 35 |
| Sept. 4 12 49 | | JULY. | 7 11 21 | 7 19 37 | | July. | | 8 20 45 |
| Oct \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | AυG | 6 0 5 | 6 4 46 | | Aug | 5 2 15 15 | 2 12 14 |
| 1614. Jan. 30 4 30 29 21 35 10 21 6 Mar. 28 7 26 28 12 58 June 26 20 10 27 3 17 July 26 8 54 26 16 3 Aug. 22 10 22 33 147 Oct. 22 23 6 22 23 58 Nov. 21 11 50 21 10 22 Dec. 21 0 34 20 21 13 Dec. 21 10 34 20 21 13 Dec. 22 25 1 30 18 Dec. 21 11 4 18 41 14 22 1 | | SEPT | 4 12 49 | 4 13 19 | | 0 | 17 9 87 | 17 4 6 |
| Nov. 2 14 17 2 7 55 DEC. 2 3 1 119 1 S1 15 45 31 7 34 1614. Jan. 30 4 30 29 21 35 FEB. 28 17 14 28 12 51 10 21 6 Mar. 30 5 58 30 4 57 O (14 0 20 14 6 38 APRIL 23 18 42 28 21 14 May 28 7 26 28 12 58 June 26 20 10 27 3 17 July 26 8 54 26 16 3 Aug. 24 21 38 25 3 21 Sept. 23 10 22 23 13 47 O (8 4 44 7 17 54 Oct. 22 23 6 22 23 58 Nov. 21 11 50 21 10 22 DEC. 21 0 34 20 21 13 1615. A. Feb. 18 2 3 17 20 29 Mar. 19 14 47 19 9 12 APRIL 18 3 31 17 22 52 May 17 16 15 17 13 30 June 16 4 59 16 4 47 July 15 17 43 15 20 8 Aug. 14 6 27 14 10 53 Sept. 12 19 11 13 0 42 Oct. 12 7 55 12 13 32 Oct. 80 5 27 30 12 18 Oct. 28 18 11 29 2 15 Nov. 28 18 11 12 92 21 DEC. 28 6 55 28 15 Oct. 28 16 44 0 20 14 Dec. 28 16 14 0 27 2 2 Sept. 26 10 14 2 10 15 15 Feb. 25 8 24 25 12 13 In 14 8 3 17 22 25 May 17 16 15 17 13 30 June 16 4 59 16 4 47 July 15 17 43 15 20 8 Aug. 14 6 27 14 10 53 Sept. 12 19 11 13 0 42 Oct. 12 7 55 12 13 32 Oct. 80 5 27 30 12 Dec. 28 18 11 12 92 2 Dec. 21 3 18 19 19 Dec. 28 16 14 0 27 2 2 Dec. 21 10 14 2 10 15 15 Dec. 26 19 40 27 2 2 Feb. 30 5 27 30 12 Dec. 26 19 40 27 2 2 Feb. 4 25 12 10 Dec. 28 18 11 29 2 1 Dec. 26 19 40 27 2 2 Feb. 6 55 28 15 Oct. 10 14 2 10 15 15 Feb. 6 55 28 24 25 12 13 In 14 83 Mar. 26 21 8 26 21 12 April 25 9 52 25 5 5 Aug. 12 12 48 21 48 Dec. 10 14 38 Dec. 10 14 2 10 15 15 Dec. 26 19 40 27 2 2 Dec. 21 8 26 21 14 April 25 9 52 25 5 5 Dec. 21 8 26 21 12 Dec. 20 18 26 21 12 Dec. 20 18 20 21 13 In 14 83 Mar. 26 19 40 27 2 2 Dec. 21 8 26 21 12 Dec. 20 18 26 12 12 Dec. 20 18 26 21 12 Dec. 20 18 26 21 12 Dec. 20 18 26 12 12 Dec. 20 18 26 21 12 Dec. 20 18 26 12 12 Dec. 21 8 26 21 12 Dec. 2 | | Oct | § 4 1 83 | 3 22 9 | | Sum | (1 8 59 | 1 4 27 |
| Dec. \begin{cases} 2 & 3 & 1 & 1 & 19 & 1 \\ 31 & 15 & 45 & 31 & 7 & 34 \end{cases} \] Dec. \begin{cases} 2 & 8 & 15 & 1 & 129 & 2 & 1 \\ 181 & 45 & 31 & 7 & 34 \end{cases} \] Dec. \begin{cases} 2 & 28 & 15 & 11 & 129 & 2 & 1 \\ 181 & 45 & 31 & 7 & 34 \end{cases} \] 1617. Dec. \begin{cases} 2 & 28 & 15 & 15 \\ 10 & 21 & 6 & Mar. 30 & 5 & 58 & 30 & 4 & 57 \\ O & \begin{cases} (14 & 0 & 20 & 14 & 6 & 38 \\ APRIL & 28 & 18 & 42 & 28 & 21 & 14 \\ May & 28 & 7 & 26 & 28 & 12 & 58 \\ AUG. 24 & 21 & 38 & 25 & 3 & 21 \\ Sept. 22 & 23 & 6 & 22 & 23 & 58 \\ Nov. & 21 & 11 & 50 & 21 & 10 & 22 \\ Dec. & 21 & 0 & 34 & 20 & 21 & 18 \\ APRIL & 25 & 5 & 5 \\ Mar. 19 & 13 & 19 & 19 & 8 & 38 \\ Feb. 18 & 3 & 31 & 17 & 22 & 22 \\ May & 17 & 16 & 15 & 17 & 13 & 30 \\ June & 16 & 4 & 59 & 16 & 4 & 47 \\ July & 15 & 17 & 43 & 15 & 20 & 8 \\ Aug. 12 & 7 & 55 & 12 & 13 & 32 \\ Oct. 12 & 7 & 55 & 12 & 13 & 32 \\ Oct. 12 & 7 & 55 & 12 & 13 & 32 \\ Oct. 12 & 7 & 55 & 12 & 13 & 32 \\ Oct. 12 & 23 & 5 & 51 \\ Oct. 12 & 27 & 55 & 12 & 13 & 32 \\ Oct. 12 & 27 & 55 & 12 | | | 18 19 55 | 18 17 53 | | ALLI | 30 16 48 | 30 20 37 |
| Dec. \begin{array}{ c c c c c c c c c c c c c c c c c c c | | Nov | 2.14 17 | 2 7 55 | | Oct | 30 5 27 | 30 12 2 |
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| Oct. 16 5 26 15 16 5 5 14 18 10 14 6 18 18 29 12 29 19 19 19 10 10 46 10 7 14 14 14 14 15 15 15 15 | | SEPT | 16 16 42 | 16 4 48 | | | 1 | |
| Nov \begin{array}{c c c c c c c c c c c c c c c c c c c | | Oct | 16 5 26 | 15 16 5 | | _ | 1 | |
| 1621. G. 10 18 48 MAR 12 19 38 12 17 48 FEB 11 8 22 11 12 49 MAR 12 21 6 18 6 41 APRIL. 11 9 50 11 22 18 MAY 10 12 34 11 10 55 O \{25 16 56 25 8 42} JUNE. 9 11 18 9 21 0 JULY. 9 0 2 9 5 14 AUG 7 12 46 7 12 48 SEPT 6 1 30 5 20 28 OCT 5 14 14 5 5 28 Nov 10 19 19 19 10 19 19 10 10 48 10 7 14 FEB 10 10 10 48 10 7 14 FEB 10 10 10 48 10 7 14 FEB 8 28 92 8 18 41 OC 4 4 8 88 24 20 22 APRIL MAY. 7 18 44 7 9 27 JUNE. 6 2 28 6 0 20 JULY. 5 15 12 5 15 48 AUG 4 8 56 4 6 58 SEPT 5 14 14 5 5 28 Nov 6 18 21 20 19 4 46 Nov 8 10 7 19 88 MAY. 7 18 44 7 9 27 JUNE. 6 2 28 6 0 20 JULY. 5 15 12 5 15 48 AUG 6 1 80 5 20 28 OCT 5 14 14 5 5 28 Nov 10 10 48 10 7 14 FEB 10 7 15 MAR 9 12 16 9 6 41 OCT 8 1 0 7 19 88 MAY. 7 18 44 7 9 27 JUNE. 6 2 28 6 0 20 JULY. 5 15 12 5 15 48 AUG 4 8 56 4 6 58 SEPT 5 14 14 5 5 28 Nov 6 18 21 20 19 4 46 Nov 8 10 7 19 8 24 20 22 APRIL 11 20 12 APRIL 9 12 16 9 6 41 OCT 11 22 4 11 20 12 12 16 21 86 OCT 11 22 4 11 20 12 IAN 10 10 48 10 7 14 FEB 8 28 92 8 18 41 9 6 41 APRIL 10 7 15 MAR 9 12 16 9 6 41 APRIL 10 7 15 MAR 9 12 16 9 6 41 APRIL 10 7 15 MAR 9 12 16 9 6 41 APRIL 11 20 12 JAN 10 10 48 10 7 14 FEB 8 28 92 8 18 41 APRIL 24 6 88 24 20 22 APRIL 8 1 0 7 19 88 MAY. 7 18 44 7 9 27 JUNE. 6 2 28 6 0 20 JULY. 5 15 12 5 15 48 AUG 4 8 56 4 6 58 SEPT 6 1 80 7 OCT 8 11 20 12 IN OCT 11 22 4 II 20 12 II 20 12 II 20 12 II 20 12 II 20 12 II 20 12 II 20 12 II 20 12 II 20 12 II 20 12 III 20 19 III 20 10 10 48 III 20 10 10 48 III 20 10 10 48 III 20 10 10 48 III 20 10 | | Nov | (14 18 10 | 14 6 18 | | | | |
| 1621. G. 10 18 48 Dec. 14 6 54 18 28 10 1624. D.C. JAN. 10 10 48 10 7 14 D.C. 10 18 48 Feb. 11 8 22 11 12 49 10 7 15 Mar. 12 21 6 18 6 41 APRIL 11 9 50 11 22 18 May 10 22 34 11 10 55 O | | 0 | 129 12 82 | 29 19 19 | | | | 7 |
| 1621. G. Feb. 12 19 38 12 17 48 Feb. 18 22 11 12 49 10 18 48 MAR. 12 21 6 18 6 41 APRIL 11 9 50 11 22 13 MAY . {10 22 34 11 10 55} O {25 16 56 25 8 42} JUNE . 9 11 18 9 21 0 JULY . 9 0 2 9 5 14 AUG 7 12 46 7 12 43 SEPT. 6 1 80 5 20 28 Oct 5 14 14 5 5 23 Nov { 4 2 58 8 16 7 O {18 21 20 19 4 46} Nov 8 28 32 8 18 41 MAR {9 12 16 9 6 41} O {24 6 88 24 20 22 APRIL 8 1 0 7 19 88 MAY . 7 18 44 7 9 27 JUNE . 6 2 28 6 0 20 JULY . 5 15 12 5 15 48 AUG 4 8 56 4 6 58 SEPT 6 1 80 5 20 28 Oct 5 14 14 5 5 23 Nov { 4 2 58 8 16 7 O {18 21 20 19 4 46} Nov 8 0 6 52 80 14 48 | | DEC | 14 6 54 | 18 28 10 | 4004 | | | |
| G. FEB 11 8 22 11 12 49 MAR 12 21 6 18 6 41 APRIL 11 9 50 11 22 18 MAY . {10 22 34 11 10 55 O \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 1601 | 7 | 10 10 00 | 10.15.40 | | | 1 | |
| 10 18 48 MAR. 12 21 6 18 6 41 APRIL 11 9 50 11 22 18 MAY | | | | 11 | | | | 100 |
| APRIL 11 9 50 11 22 18 MAY . \$\ \begin{array}{c ccccccccccccccccccccccccccccccccccc | | | | 11 | 10 7 15 | | 12 | 9 6 41 |
| MAY . \$\begin{array}{c ccccccccccccccccccccccccccccccccccc | 10 10 48 | | | | | 0 | | 24 20 22 |
| O | | | | - 11 | | APRIL | 8 1 0 | 7 19 88 |
| June. 9 11 18 9 21 0 July 9 0 2 9 5 14 Aug. 7 12 46 7 12 43 Sept. 6 1 80 5 20 28 Oct. 5 14 14 5 5 28 Nov. 4 2 58 8 16 7 O {18 21 20 19 4 46} July . 5 15 12 5 15 48 Aug. 4 8 56 4 6 58 Sept. 2 16 40 2 21 88 Oct. 2 5 24 2 11 10 Nov. 80 6 52 80 14 48 | | | J | - 11 | | | 7 18 44 | 7 9 27 |
| July . 9 0 2 9 5 14 Aug 7 12 46 7 12 43 Sept 6 1 80 5 20 28 Oct 5 14 14 5 5 28 Nov { 4 2 58 8 16 7 O { 18 21 20 19 4 46 } Aug 4 8 56 4 6 58 Sept { 2 16 40 2 21 38 Oct { 2 5 24 2 11 10 Nov 80 6 52 30 14 48 | | | | - 11 | | JUNE . | 6 2 28 | 6 0 20 |
| Aug. 7 12 46 7 12 43 SMPT. 2 16 40 2 21 38 SMPT. 6 1 30 5 20 28 Oct. 5 14 14 5 5 23 Nov. 4 2 58 3 16 7 O 18 21 20 19 4 46 Nov. 80 6 52 30 14 48 | | June. | 9 11 18 | 9 21 0 | | JULY. | 5 15 12 | 5 15 48 |
| Sept. 6 1 80 5 20 28 Oct. 5 14 14 5 5 28 Nov. 6 18 21 20 19 4 46 Nov. 80 6 52 80 14 48 | | July. | | 9 5 14 | | Aug | 4 8 56 | 4 6 58 |
| Oct 5 14 14 5 5 28 Nov { 4 2 58 3 16 7 O { 18 21 20 19 4 46 } Oct { 2 5 24 2 14 10 } Nov 80 6 52 80 11 48 | l | Aug | 7 12 46 | 7 12 43 | | SEPT | ſ 2 16 40 | 2 21 38 |
| Oct. 5 14 14 5 5 28 Nov. 4 2 58 8 16 7 0 18 21 20 19 4 46 Nov. 80 6 52 30 14 43 | | SEPT | 6 1 80 | 5 20 28 | | 0 | 17 11 2 | 16 21 36 |
| Nov 4 2 58 5 16 7 81 18 8 81 28 50 1 4 48 Nov 80 6 52 80 11 48 | | Ocr | 5 14 14 | 5 5 28 | | 0.00 | (2 5 24 | the with the world of the |
| 0 (18 21 20 19 4 46 Nov 80 6 52 80 14 48 | | Nov | f 4 2 58 | 8 16 7 | | Join. | (81 18 8 | 81 28'50 |
| DEC 8 15 42 8 5 0 DEC 29 19 36 20 22 56 | | 0 | 18 21 20 | 19 4 46 | | Nov | | 80 11 48 |
| | | DEC | 8 15 42 | 8 5 0 | | DEC | 29 19 86 | 29 22 56 |
| | | | | Tijl. | | | | AND A 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ec!.) | Mean Vernal Equinox. | Month. | Mean New Moon, (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|---|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1625. | | d. h. m. | d. h. m. | A.D. 1628. | | d. h. m. | d. h. m. |
| В- | JAN | 28 8 21 | 28 9 31 | F.E. | 0 | (11 5 9 | 10 23 26 |
| 70. 7 | ΓЕВ | 26 21 5 | 26 19 40 | | JAN | 25 23 31 | 26 11 22 |
| March. $d. h. m.$ | 0 | (18 15 27 | 14 3 25 | March. | FEB | 24 12 15 | 25 1 57 |
| 10 13 3 | MAR. | 28 9 49 | 28 5 37 | d. h. m. 10 6 30 | MAR. | 25 0 59 | 25 13 36 |
| | APRIL | 26 22 33 | 26 16 0 | 20 000 | APRIL | 23 13 43 | 23 22 40 |
| | MAY. | 26 11 17 | 26 3 34 | | MAY. | 23 2 27 | 23 6 1 |
| 1 | June. | 25 0 1 | 24 16 46 | | JUNE. | 21 15 11 | 21 12 40 |
| | July. | 24 12 45 | 24 7 38 | | | (6 9 33 | 6 13 7 |
| | Aug | 23 1 29 | 22 23 43 | | July. | 21 3 55 | 20 19 44 |
| 1 | 0 | 6 19 51 | 6 12 4 | | | 19 16 39 | 19 4 19 |
| | SEPT. | 21 14 13 | 21 16 15 | | Aug | 18 5 23 | 17 15 21 |
| | Ост | 21 2 57 | 21 8 24 | | Oct. | 17 18 7 | 17 15 21 |
| | Nov | 19 15 41 | 19 23 31 | | Nov. | 16 6 51 | 15 22 27 |
| | DEC | 19 4 25 | 19 13 11 | | 1 | (15 19 35 | 15 17 30 |
| | | | 20 20 11 | | Dec | 30 13 57 | 30 14 31 |
| 1626. | JAN | 17 17 10 | | | | (30 13 31 | 20 14 21 |
| 1020. | FEB | 17 17 10 16 5 54 | 18 1 16 | 1629. | JAN | 14 8 20 | 14.13 4 |
| 10 18 52 | MAR. | 16 5 54 17 18 38 | 16 11 47 | D, | FEB | 12 21 4 | 18 7 26 |
| 10 10 52 | APRIL | | 17 21 1 | 10 12 19 | MAR. | 14 9 48 | 14 23 18 |
| | MAY. | 16 7 22 15 20 6 | 16 5 28 | | APRIL | 12 22 32 | 18 12 5 |
| | JUNE. | 14 8 50 | 15 13 54 | | MAY. | 12 11 16 | 12 22 1 |
| ļ | JULY. | 18 21 34 | 13 23 20 13 10 38 | | June. | 11 0 0 | 11 5 53 |
| | Aug. | 12 10 18 | 12 0 21 | | July. | 10 12 44 | 10 12 45 |
| | SEPT. | 10 23 2 | 10 16 25 | | Aug. | 9 1 28 | 8 19 46 |
| ŀ | Oct. | 10 11 46 | | | SEPT. | 7 14 12 | 7 3 56 |
| | Nov. | 9 0 30 | 10 10 6 9 4 16 | | OUT. | 7 2 56 | 6 14 8 |
| | DEC. | 8 13 14 | 8 21 39 | | Nov. | 5 15 40 | 5 2 58 |
| 1 | 220 | 0 10 11 | 0 21 39 | | DEC | 5 4 24 | 4 18 34 |
| 1627. | JAN. | 7 1 58 | 7 10 10 | | | | |
| G. | O AN. | $\begin{cases} 7 & 1 & 58 \\ 21 & 20 & 20 \end{cases}$ | 7 13 13 | 1630. | JAN | 3 17 8 | 3 12 22 |
| | FEB. | 5 14 42 | 21 12 59 6 2 27 | C. | FEB | 2 5 52 | 2 7 14 |
| 11 0 41 | MAR. | 7 3 26 | 6 2 27 7 13 19 | 10 18 8 | MAR | 3 18 36 | 4 1 41 |
| 11 0 41 | APRIL | 5 16 10 | 5 22 9 | | APRIL | 2 7 20 | 2 18 23 |
| 1 | MAY. | 5 4 54 | | | | 1 20 4 | 2 8 29 |
| | June . | 3 17 38 | | | May O | 16 14 26 | 16 7 4 |
| | JULY. | 3 6 22 | 3 12 54 2 20 46 | | _ | 131 8 48 | 31 19 48 |
| | 0 | 18 0 44 | 18 8 31 | | JUNE. | 29 21 32 | 30 4 55 |
| | | (1 19 6 | 1 6 27 | | July. | 29 10 16 | 29 12 46 |
| | Aug | 31 7 50 | 30 18 46 | | Aug. | 27 23 0 | 27 20 26 |
| | SEPT | 29 20 34 | 29 10 2 | | SEPT | 26 11 44 | 26 4 52 |
| | Oct. | 29 9 18 | 29 3 51 | | Ост | 26 0 28 | 25 14 46 |
| | Nov. | 27 22 2 | 27 23 4 | | . 0 | 9 18 50 | 10 0 42 |
| | DEC. | 27 10 46 | 27 18 4 | | Nov. | 24 13 12 | 24 2 36 |
| | | 20 20 | LU ± | | DEC. | 24 \ 1 56 | 23 16 31 |
| F | | | <u>' </u> | 1 | | ١ | |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ect. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|-----------------------------------|----------------|----------------------------|--------|---|-----------------------|
| A.D. 1631. | | d. h. m. | d. h. m. | A.D. 1634. | | d. h. m. | d. h. m. |
| March. | JAN | 22 14 41 | 22 8 21 | E. | JAN | 19 5 51 | 19 8 47 |
| d. h. m. | FEB | 21 8 25 | 21 1 27 | March. | FEB | 17 18 35 | 17 18 57 |
| 10 23 56 | MAR. | 22 16 9 | 22 18 54 | d. h. m. | 0 | 6 4 12 57 | 4 22 57 |
| | APRIL | 21 4 58 | 21 11 39 | 10 17 23 | MAR | (19 7 19 | 19 4 40 |
| | 0 | 5 23 15 | 5 21 22 | | APRIL | 17 20 3 | 17 14 29 |
| | MAY . | 20 17 37 | 21 2 46 | | MAY. | 17 8 47 | 17 1 8 |
| | JUNE. | 19 6 21 | 19 15 46 | | JUNE . | 15 21 31 | 15 13 18 |
| | July. | 18 19 5 | 19 2 45 | | JULY . | 15 10 15 | 15 3 17 |
| | Aug | 17 7 49 | 17 12 20 | ! | Aug | ſ 13 22 59 | 13 18 55 |
| | SEPT | 15 20 33 | 15 21 21 | | 0 | 28 17 21 | 28 11 57 |
| | OUT | $\int 15 9 17$ | 15 6 87 | | SEPT | 12 11 43 | 12 11 32 |
| | 0 | (30 8 39 | 30 1 32 | , | Our. , | 12 0 27 | 12 4 15 |
| | Nov | 13 22 1 | 13 16 41 | | Nov | 10 13 11 | 10 20 14 |
| | DEC | 18 10 45 | 18 8 58 | , | DEC | 10 1 55 | 10 10 52 |
| | | | | 1635. | JAN | 8 14 39 | 0.00.40 |
| 1632. | JAN | 11 23 29 | 11 16 15 | ъ, | FEB. | 7 3 23 | 8 23 49 |
| A.G. | FEB | 10 12 18 | 10 5 47 | | 0 | 21 21 45 | 7 11 2 21 22 44 |
| 10 5 45 | MAR | 11 0 57 | 10 20 27 | 10 23 12 | MAR. | 8 16 7 | |
| | APRIL. | 9 18 41 | 9 11 58 | | APRIL | 7 4 51 | 8 20 43 7 5 16 |
| | 0 | 21 8 8 | 24 14 28 | | MAY. | 6 17 35 | 7 5 16 6 18 21 |
| 1 | MAY. | 9 2 25 | 9 8 52 | | JUNE . | 5 6 19 | 4 22 0 |
| 1 | JUNE . | 7 15 9 | 7 19 24 | | July . | 4 19 3 | |
| | JULY. | 7 8 58 | 7 9 56 | | Aug. | 8 7 47 | 4 8 9 2 20 36 |
| | Aug | 5 16 37 | 5 28 4 | | 0 | 18 2 9 | 18 4 37 |
| | SEPT | 4 5 21 | 4 10 56 | | SEPT. | 1 20 31 | 1 11 36 |
| İ | Oct | 3 18 5 | 8 21 56 | | ·ONLI | (1 9 15 | 1 4 45 |
| | 0 | 18 12 27 | 18 1 88 | | Ocr | 80 21 59 | 30 23 4 |
| | Nov | 2 6 49 | 2 8 34 | | Nov | 29 10 48 | 29 17 11 |
| | Dic. | ſ 1 19 8B | 1 19 16 | | DEC. | 28 23 27 | 29 9 54 |
| | 201101 | 181 8 17 | 31 6 9 | 1000 | | | |
| | | | | 1636. c.b. | JAN | 27 12 12 | 28 0 24 |
| 1633. | JAN | 29 21 2 | 29 17 14 | 5424 | O | 11 6 84 | 11 0 45 |
| F. | FEB | 28 9 46 | 28 4 41 | 10 | FEB. | 26 0 56 | 26 12 20 |
| 10 11 84 | MAR | 29 22 80 | 29 16 46 | 10 5 1 | MAR. | 26 18 40 | 26 21 59 |
| | APRIL | 28 11 14 | 28 5 52 | | APRIL | 25 2 24 | 25 5 55 |
| | MAY . | 27 28 58 | 27 20 5 | | MAY. | 24 15 8 | 24 13 2 |
| | June . | 26 12 42 | 26 11 13 | | JUNE . | 28 8 52 | 22 20 20 |
| | July . | 26 1 26 | 26 2 42 | | July. | 22 16 86 | 22 4 57 |
| | Aug | 21 14 10 | 24 17 54 | | Ο Α.υα | 6 10 58 | 6 17 42 |
| | SEPT | 28 2 54 | 23 8 18 | | SEPT. | \(\frac{21}{19}\) 5 20 \(\frac{19}{18}\) 4 | 20 15 52 . 19 5 43 |
| | Ocr | 22 15 38 | 22 21 43 | | Oct | 19 6 48 | 18 22 30 |
| | Nov | 21 4 22 | 21 10 18 | | Nov. | 17 19 32 | 16 22 50 17 17 18 |
| [| DEC | 20 17 6 | 20 21 49 | | DEC | 17 8 16 | 17 12 42 |
| | | | | | | 1, 010 | 21,12 92 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|----------------|----------------------------|--------|------------------------------|----------------|
| A.D. 1637. | | d. h. m. | d. h. m. | A.D. 1640. | | d. h. m. | d. h. m. |
| A. | JAN | 15 21 1 | 16 7 5 | E.D. | JAN | 13 12 11 | 13 4 24 |
| March. d. h. m. | FEB | 14 9 45 | 14 23 5 | March. | FEB. | 12 0 55 | 11 20 43 |
| 10 10 49 | MAR | 15 22 29 | 16 12 6 | d. h. m. 10 4 16 | MAR. | 12 13 39 | 12 13 52 |
| | APRIL | 14 11 13 | 14 22 16 | | APRIL | 11 2 23 | 11 6 54 |
| 1 | MAY . | 13 23 57 | 14 6 15 | | MAY. | 10 15 7 | 10 22 49 |
| | JUNE . | 12 12 41 | 12 13 5 | | June . | 9 3 51 | 9 12 55 |
| | JULY. | 12 1 25 | 11 19 49 | | July. | 8 16 35 | 9 0 59 |
| | Aug | 10 14 9 | 10 3 32 | | Aug. | 7 5 19 | 7 11 22 |
| | SEPT | 9 2 53 | 8 13 20 | | SEPT. | 5 18 3 | 5 20 47 |
| | Oct | 8 15 37 | 8 1 55 | | Oct | 5 6 47 | 5 6 4 |
| } | Nov. | 7 4 21 | 6 17 36 | | Nov. | 3 19 31 | 3 15 53 |
| | DEC | (617 5 | 6 11 48 | | DEC. | 3 8 15 | 3 2 36 |
| | 0 | 21 11 27 | 21 13 36 | | JEC | 9 0 10 | 5 2 50 |
| | | | | | _ | (1 20 59 | 1 14 18 |
| 1638. | JAN | 5 5 49 | 5 7 18 | 1641. | JAN | 81 9 43 | 31 8 5 |
| G. | FEB | 3 18 33 | 4 2 23 | C. | FEB | | |
| 10 16 38 | MAR | 5 7 17 | 5 19 32 | | | (12227 | 1 16 55 |
| | APRIL | 3 20 1 | 4 9 48 | 10 10 5 | MAR | 81 11 11 | 31 7 45 |
| | MAY . | 8 8 45 | 3 21 2 | | 0 | (15 5 33 | 15 14 21 |
| , | June. | (12129 | 2 5 48 | | APRIL | 29 23 55 | 29 23 18 |
| | 0 | 16 15 51 | 16 9 42 | Į | MAY . | 29 12 39 | 29 14 58 |
| 1 | T | (1 10 13 | 1 13 4 | | June . | 28 1 28 | 28 6 5 |
| | JULY. | 80 22 57 | 30 19 58 | | JULY. | 27 14 7 | 27 20 6 |
| | Aug | 29 11 41 | 29 8 34 | | Aug. | 26 2 51 | 26 8 50 |
| | SEPT | 28 0 25 | 27 12 47 | | SEPT. | 24 15 35 | 24 20 29 |
| | Ост | 27 13 9 | 27 0 20 | | 0 | (9 9 57 | 8 21 16 |
| 1 | Nov | 26 1 53 | 25 14 36 | | OCT. | 24 4 19 | 24 7 81 |
| | 0 | (10 20 15 | 11 4 4 | | Nov. | 22 17 3 | 22 18 21 |
| | DEC | 25 14 37 | 25 7 19 | | DEC | 22 5 47 | 22 5 10 |
| 1639. | JAN | 24 3 22 | 24 1 41 | 1642. | Jan | 20 18 32 | 20 16 5 |
| F. | FEB | 22 16 6 | 22 20 21 | В. | FEB. | 19 7 16 | 19 3 7 |
| 10 22 27 | MAR | 24 4 50 | 24 13 57 | 10 15 54 | MAR. | 20 20 0 | 20 14 83 |
| | APRIL | 22 17 34 | 23 5 19 | | 0 | 6 4 14 22 | 5 4 4 |
| | MAY. | 22 6 18 | 22 17 59 | | APRIL | 19 8 44 | 19 2 47 |
| * | 0 | 5 6 0 40 | 5 15 45 | | MAY . | 18 21 28 | 18 16 13 |
| | June. | 20 19 2 | 21 4 10 | | JUNE. | 17 10 12 | 17 6 49 |
| | JULY . | 20 7 46 | 20 12 39 | | JULY . | 16 22 56 | 16 22 13 |
| | Aug | 18 20 30 | 18 20 27 | | Aug | 15 11 40 | 15 13 47 |
| | SEPT | 17 9 14 | 17 4 35 | | SEPT | (14 0 24 | 14 4 54 |
| | Oct | 16 21 58 | 16 13 50 | | 0 | 28 18 46 | 28 5 84 |
| } | Nov. | §15 10 42 | 15 0 45 | | Ост | 13 13 8 | 13 19 9 |
| | _ 0 | 80 5 4 | 30 13 3 | | Nov | 12 1 52 | 12 8 21 |
| 1 | DEC | 14 23 26 | 14 13 37 | | DEC | 11 14 36 | 11 20 35 |
| | 1 | 1 | Į. | | | | |

| ,) - | | | | OZVIN LIM | A4. | | |
|----------------------------|--------|-----------------------------------|--------------------------|----------------------------|--------|------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 1643. | | d. h. m. | | A.D. 1646. | | d. h. m. | d. h. m. |
| March. | JAN | 10 3 21 | | D. | JAN | 6 18 30 | 7 2 9 |
| d. h. m. | FEB | 8 16 5 | | March. | 0 | 21 12 52 | 21 8 10 |
| 10 21 42 | MAR | ∫10 4 4 9 | | d. h. m. | FEB | 5 7 14 | 5 19 27 |
| | 0 | 24 23 11 | 25 10 48 | 10 15 9 | MAR | 6 19 58 | 7 9 55 |
| i | APRIL | 8 17 33 | 8 13 24 | H | APRIL | 5 8 42 | 5 21 22 |
| | MAY . | 8 6 17 | 7 23 18 | 11 | MAY . | 4 21 26 | 5 6 16 |
| | June. | 6 19 1 | 6 10 25 | H | JUNE . | 8 10 10 | 8 18 28 |
| | JULY. | 6 7 45 | 5 23 23 | il | JULY. | 6 2 22 54 | 2 20 6 |
| | Aug | 4 20 29 | 4 14 15 | 11 | 0 | 17 17 16 | 17 19 39 |
| 1 | SEPT | 3 9 13 | 8 6 38 | | | (1 11 88 | 1 8 14 |
| | 0 | 18 3 35 | 17 20 8 | | Aug | 81 0 22 | 30 11 57 |
| | Ocr | 2 21 57 | 2 23 41 | | SEPT | 29 13 6 | 28 23 10 |
| | Nov | f 1 10 41 | 1 16 24 | 1 | OCT | 29 1 50 | 28 18 28 |
| ł | 100. | 180 28 2 5 | (1 7 59 | | Nov | 27 14 34 | 27 6 28 |
| | DEC. : | 30 12 9 | 30 21 56 | | DEC. | 27 .3 18 | 27 1 28 |
| | | | | | | | |
| 1644, | JAN | 29 0 58 | 29 10 0 | 1647. | 0 | (10 21 40 | 10 28 28 |
| G.F. | FEB | 27 13 37 | 27 20 17 | C. | JAN | 25 16 B | 25 20 54 |
| 10 8 31 | MAR. | 28 2 21 | 28 5 8 | | FEB | 24 4 47 | 24 15 6 |
| | APRIL | 26 15 5 | 26 13 8 | 10 20 58 | MAR | 25 17 81 | 26 6 48 |
| | MAY . | 26 3 49 | 25 21 12 | | APRIL | 24 6 15 | 24 19 57 |
| | JUNE. | 24 16 83 | 24 6 22 | | MAY . | 28 18 59 | 24 5 20 |
| | JULY . | 24 5 17 | 28 17 82 | | JUNE . | 22 7 48 | 22 13 15 |
| | Aug. | 22 18 1 | 22 7 17 | : | JULY . | 21 20 27 | 21 20 16 |
| | SEPT. | 21 6 45 | 20 28 88 | | Aug | 20 9 11 | 20 8 81 |
| | Oct. | 20 19 29 | 20 17 38 | | SEPT | 18 21 55 | 18 11 57 |
| | Nov. | 19 8 13 | 19 12 18 | | Оот | 18 10 89 | 17 22 24 |
| | DEC. | 18 20 57 | 19 5 57 | | Nov | 16 28 28 | 16 11 21 |
| | 220. | 20 20 01 | 10 0 01 | | DEC | 16 12 7 | 16 2 51 |
| 1645. | T | 17 0 40 | 47.5.07.40 | | | | |
| E. | JAN. | 17 9 42 | {17 21 42 {31 21 16 | 1648. | JAN | 15 0 52 | 14 20 24 |
| | _ ' | 1 4 4 | · | B.A. | FEB | 18 13 36 | 18 14 54 |
| 10 9 20 | MAR. | | 16 10 52 | 10 2 47 | MAR | 14 2 20 | 14 9 0 |
| 10 0 20 | APRIL | 17 11 10 15 28 54 | 17 21 80 | | APRIL | 12 15 4 | 18 1 28 |
| | MAY. | | 16 6 2 | i | MAY . | 12 3 48 | 12 15 28 |
| | | 15 12 38 14 1 22 | 15 13 19 | 1 | 0 | 26 22 10 | 26 14 16 |
| İ | JUNE. | | 18 20 17 | | JUNE. | 10 16 82 | 11 2 52 |
| | 14 | 18 14 6 | 18 4 4 | | July. | 10 5 16 | 10 12 12 |
| | | 28 8 28 | 28 15 48 | | Avg | 8 18 0 | 8 20 28 |
| l l | Aug. | 12 2 50 | 11 13 43 | | SEPT | 7 6 44. | 7 4 25 |
| 1 | 1 | 10 15 84 | 10 2 7 | 1 | Ocr | 6 19 28 | 6 13 18 |
| i i | | 10 4 18 | 9 17 84 | | Nov. | 5 8 12 | 4 28 24 |
| 1 | Nov. | 8 17 2 | 8 11 37 | 1 | 0 | 20 2 34 | 20 8 48 |
| | Dec | 8 5 46 | 8 7 1 | | DEC | 4 20 56 | 4 11 18 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|------------|------------------------------------|-----------------------------|----------------------------|---------|------------------------------------|----------------|
| A.D. 1649. | | d. h. m. | d. h. m. | A.D. 1652. | | d. h. m. | d. h. m. |
| G. | JAN | 3 9 40 | 3 1 2 | D.C. | Tax | f 1 0 50 | 1 6 49 |
| d. h . m . | ${f F}$ eb | 1 22 24 | 1 16 25 | | JAN. | \gamma 34 | 30 17 35 |
| 10 8 35 | MAR | 3 11 8 | 3 8 59 | March. | FEB | 29 2 18 | 29 3 25 |
| | APRIL | 1 23 52 | 2 1 57 | d. h. m. | 0 | ∫14 20 40 | 15 6 21 |
| | | 1 12 36 | 1 18 23 | 10 2 2 | MAR | 129 15 2 | 29 12 39 |
| | May O | 16 6 58 | 16 4 55 | | APRIL | 28 3 46 | 27 21 57 |
| | | (81 1 20 | 31 9 25 | | MAY. | 27 16 30 | 27 8 9 |
| | June. | 29 14 4 | 29 22 35 | | June. | 26 5 14 | 25 20 0 |
| | July. | 29 2 48 | 29 9 55 | | JULY. | 25 17 58 | 25 9 54 |
| | Aug | 27 15 32 | 27 19 58 | | Aug | 24 6 42 | 24 1 42 |
| | Sept | 26 4 16 | 26 5 29 | | 0 | 8 1 4 | 7 19 57 |
| | Oct | 25 17 0 | 25 15 11 | | SEPT | 22 19 26 | 22 18 45 |
| | 0 | f 9 11 22 | 9 9 15 | | Ост | 22 8 10 | 22 12 0 |
| | Nov | 24 5 44 | 24 1 33 | | Nov | 20 20 54 | 21 4 29 |
| | DEC. | 23 18 28 | 23 12 45 | | DEC | 20 9 38 | 20 19 28 |
| | | 1 | | 1653. | JAN | 18 22 23 | 19 8 32 |
| 1650. | JAN. | 22 7 13 | 22 0 52 | В. | FEB | 17 11 7 | 17 19 37 |
| F. | FEB | 20 19 57 | 20 13 54 | | 0 | (4 5 29 | 4 6 12 |
| 10 14 24 | MAR. | 22 8 41 | 22 3 58 | 10 7 51 | MAR | 18 28 51 | 19 4 57 |
| 10 22 22 | APRIL | 20 21 25 | 20 18 56 | | APRIL | 17 12 85 | 17 18 5 |
| | 0 | (5 15 47 | 5 22 4 | | MAY . | 17 1 19 | 16 20 50 |
| | MAY. | 20 10 9 | 20 10 25 | | June. | 15 14 8 | 15 5 10 |
| | JUNE . | 18 22 53 | 19 1 52 | | JULY. | 15 2 47 | 14 15 8 |
| 1 | JULY . | 18 11 87 | 18 16 35 | | Aug | (18 15 81 | 18 8 84 |
| } | Aug. | 17 0 21 | 17 6 11 | | 0 | 28 9 58 | 28 12 23 |
| ł | SEPT | 15 13 5 | 15 18 38 | | SEPT | 12 4 15 | 11 18 43 |
| 1 | Ocr | (15 1 49 | 15 6 12 | | Ост | 11 16 59 | 11 12 11 |
| 1 | 0 | 29 20 11 | 29 9 22 | | Nov | 10 5 48 | 10 6 51 |
| | Nov | 13 14 33 | 13 17 19 | | DEC | 9 18 27 | 10 1 21 |
| 1 | DEC. | 13 3 17 | 13 4 15 | 1654. | JAN | 8 7 12 | 8 18 19 |
| | | | | A. | FEB. | 6 19 56 | 7 8 48 |
| 1651. | JAN. | 11 16 2 | 11 15 5 | | O O | 21 14 18 | 21 8 43 |
| E. | FEB. | 10 4 46 | 10 1 51 | 10 13 39 | MAR. | 8 8 40 | 8 20 34 |
| 10 20 13 | MAR. | 11 17 30 | 11 12 46 | 10 10 00 | APRIL | 6 21 24 | 7 5 56 |
| | APRIL | 10 6 14 | 10 0 16 | | MAY. | 6 10 8 | 6 13 37 |
| | MAY. | 9 18 58 | 9 12 48 | | June . | 4 22 52 | 4 20 80 |
| | JUNE . | 8 7 42 | 8 2 39 | | JULY. | 4 11 36 | 4 3 40 |
| | JULY . | | 7 17 41 | | Aug. | (3 0 20 | |
| 1 | Aug. | | 6 9 22 | | AUG. | 17 18 42 | 11 |
| | SEPT. | | 5 1 1 | | SEPT | 1 13 4 | 1 01 00 15 |
| | Oct. | | 4 16 1 | 1 | ~ | (1 1 48 | |
| 1 | Nov. | | 3 6 8 | | Oct | 30 14 82 | 1 |
| | DEG | 2 12 6 | 2 18 58 | | Nov. | 29 8 16 | 1 |
| | | | | | DEC. | 28 16 0 | |
| 1 | 1 | | 1 | II. | I LUEU. | 20.10 | 1 20 20 40 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|---|----------------|----------------------------|----------|-------------------|----------------|
| A.D. | - | | - | | | (O Full Ecl.) | (O Full Ecl.) |
| 1655. G. | T | d. h. m. | | A.D. 1658. | | d. h. m. | d. h. m. |
| March. | JAN. | 27 4 44 | | March. | JAN | 28 19 54 | 23 12 41 |
| d. h. m. | | 25 17 28 | | d. h. m. | FEB | 22 8 38 | 22 4 29 |
| 10 19 28 | MAR | 27 6 12 | 27 19 54 | 10 12 55 | MAR | 23 21 22 | 23 21 6 |
| | APRIL | 25 18 56 | 26 5 54 | | APRIL | 22 10 6 | 22 13 41 |
| 1 | MAY . | 25 7 40 | 25 13 44 | 11 | MAY . | 21 22 50 | 22 5 25 |
| | June . | 23 20 24 | 23 20 30 | | JUNE. | 20 11 34 | 20 19 36 |
| | July . | 23 9 8 | 28 8 17 | | JULY . | 20 0 18 | 20 7 58 |
| | Aug | 21 21 52 | 21 11 10 | | Aug | 18 13 2 | 18 18 48 |
| | SEPT | 20 10 36 | 19 21 8 | | SEPT | 17 1 46 | 17 4 44 |
| | Ост | 19 23 20 | 19 9 54 | | Oct | 16 14 30 | 16 14 31 |
| | Nov | 18 12 4 | 18 1 89 | | Nov. | 15 3 14 | 15 0 42 |
| | DEC | 18 0 48 | 17 19 49 | | DEC | 14 15 58 | 14 11 81 |
| | | (1 19 11 | 1 22 85 | | | | |
| 1656. | JAN | 16 18 33 | 16 15 12 | 1659. | JAN | 18 4 48 | 12 23 6 |
| F.E. | FEB. | 15 2 17 | 15 10 6 | В. | FEB | 11 17 27 | 11 11 26 |
| 10 1 17 | MAR. | 15 15 1 | 16 3 4 | 10 18 44 | MAR | 13 6 11 | 13 0 41 |
| 10 11. | APRIL | 14 8 45 | 14 17 10 | | APRIL | (11 18 55 | 11 14 54 |
| 1 | MAY. | 13 16 29 | 14 4 20 | | 0 | 26 13 17 | 26 22 4 |
| 1 | | | | | MAY. | 11 7 39 | 11 5 58 |
| | June . | $\begin{cases} 12 & 5 & 13 \\ 26 & 28 & 85 \end{cases}$ | | | June. | 9 20 23 | 9 21 25 |
| | | ł | 26 16 16 | | JULY. | 9 9 7 | 9 12 38 |
| • | JULY. | 11 17 57 | 11 20 81 | | Aug | 7 21 51 | 8 3 1 |
| | Aug | 10 6 41 | 10 8 89 | | SEPT. | 6 10 35 | 6 16 18 |
| | SEPT | 8 19 25 | 8 11 91 | | Our | 6 5 23 19 | 6 4 33 |
| | Oct | 8 8 9 | 7 21 1 | | 0 | 20 17 41 | 20 5 6 |
| 1 | Nov | 6 20 58 | 6 8 46 | | Nov | 4 12 3 | 4 16 6 |
| | DEC | $\int 6987$ | 5 28 0 | | DEC. | 4 0 47 | 4 3 16 |
| | 0 | (21 8 59 | 21 12 52 | | D.1101 1 | 7 0 11 | # 0.10 |
| 1657. | JAN | 4 22 22 | 4 15 82 | 1660. | JAN | 2 13 31 | 2 14 9 |
| D. | FEB | 8 11 6 | 8 9 81 | A.G. | FEB | 1 2 15 | 1 0 49 |
| 10 7 6 | MAR | 4 28 50 | 5 8 48 | 10 000 | | (1 14 59 | 1 11 23 |
| | APRIL | 8 12 84 | 8 21 8 | 10 0 82 | MAR | 81 8 48 | 30 22 15 |
| | MAY. | 8 1 18 | 8 12 16 | | 0 | (14 22 5 | 15 11 33 |
| | June . | (1142 | 2 0 57 | | APRIL | 29 16 27 | 29 9 56 |
| | 0 | 16 8 24 | 15 22 45 | | MAY . | 29 5 11 | 28 22 53 |
| | | (1 2 46 | 1 11 19 | | JUNE . | 27 17 55 | 27 13 16 |
| | Jury . | 80 15 80 | 80 20 6 | | JULY. | 27 6 39 | 27 4 44 |
| | Aug | 29 4 14 | 29 4 16 | | Aug | 25 19 28 | 25 20 51 |
| | SEPT. | 27 16 58 | 27 12 49 | | SEPT | 24 8 7 | 24 12 21 |
| | Oct. | 27 5 42 | 26 22 25 | ĺ | 0 | (9 2 29 | 8 13 42 |
| | Nov. | 25 18 26 | 25 9 80 | | Ocr | 23 20 51 | 24 3 13 |
| | | (10 12 48 | 10 21 22 | | Nov. | 22 9 35 | 22 16 56 |
| | _ 1/ | 25 7 10 | 24 22 17 | | DEC | 21 22 19 | 22 5 28 |
| | | | | | | I | 5 20 |
| | · · | | - 11 | 14 | | 1 | |

| Mean Vernal Equinox. | Month. | Mean New , Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|-------------|--------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 1661. | | d. h. m. | d. h. m. | A.D. 1664. | | d. h. m. | d. h. m. |
| F. | JAN | 20 11 4 | 20 16 45 | C. B. | JAN | 18 2 14 | 18 10 9 |
| d. h. m. | FEB | 18 23 48 | 19 2 52 | Manah | 0 | 1 20 36 | 1 16 50 |
| 10 6 21 | MAR | 20 12 32 | 20 12 9 | d. h. m. | FEB | 16 14 58 | 17 8 25 |
| | 0 | 4 6 54 | 4 18 0 | 9 23 47 | MAR. | 17 3 42 | 17 17 45 |
| | APRIL | (19 1 16 | 18 21 5 | | APRIL | 15 16 26 | 16 5 2 |
| | MAY. | 18 14 0 | 18 6 30 | | MAY . | 15 5 10 | 15 18 46 |
| | JUNE . | 17 2 44 | 16 17 15 | | JUNE. | 13 17 54 | 13 20 56 |
| | JULY. | 16 15 28 | 16 6 2 | | JULY. | 13 6 38 | 13 3 36 |
| | AUG | 15 4 12 | 14 21 0 | | 0 | (28 1 0 | 28 2 15 |
| | SEPT | 13 16 56 | 13 13 40 | | Aug | 11 19 22 | 11 10 51 |
| | О Ост | (28 11 18 | 28 4 22 | | SEPT | 10 8 6 | 9 19 46 |
| | Nov. | 13 5 40 11 18 24 | 13 7 11 12 0 26 | | Oct | 9 20 50 | 9 7 10 |
| | DEC. | 11 7 8 | | | Nov. | 8 9 34 | 7 21 29 |
| | DEC | 11. 1. 0 | 11 16 27 | | Dec | 7 22 18 | 7 14 88 |
| 1662. | T. 17 | 0.40.50 | 10 00 | 1665. | JAN | (611 8 | 6 9 26 |
| 1002. E. | Jan Feb | 9 19 58 8 8 37 | 10 6 37 | A. | 0 | 21 5 25 | 21 8 21 |
| 10 12 10 | MAR. | 9 21 21 | 8 18 37 10 4 38 | | FEB | 4 28 47 | 5 4 41 |
| 10 12 10 | APRIL | 8 10 5 | 8 13 6 | 10 5 36 | Mar | 6 12 31 | 6 22 38 |
| | MAY. | 7 22 49 | 7 20 45 | | APRIL | 5 1 15 | 5 14 9 |
| | JUNE . | 6 11 33 | 6 4 31 | | MAY . | 4 13 59 | 5 2 48 |
| | JULY. | 6 0 17 | 5 13 26 | | JUNE . | 8 2 48 | 3 12 86 |
| | Aug | 4 13 1 | 4 0 32 | | JULY . | 2 15 27 | 2 20 87 |
| | SEPT | 3 1 45 | 2 14 22 | | A *** | { 1 4 11 | 1 8 51 |
| | Ocr | 2 14 29 | 2 6 53 | | AUG | 30 16 55 | 80 11 28 |
| | Nov | § 1 3 13 | 1 1 18 | 3 | Sept | 29 5 89 | 28 20 8 |
| | | 30 15 57 | 30 20 14 | | Ocr | 28 18 23 | 28 6 49 |
| | DEC | 30 4 41 | 30 14 13 | | Nov | 27 7 7 | 26 19 50 |
| | 7 | | | | Dec | 26 19 51 | 26 11 11 |
| 1663. | JAN | 28 17 25 | 29 6 3 | 1666. | JAN. | 25 8 85 | 25 4 28 |
| D. | " O, | 12 11 47 | 12 5 26 | G. | FEB. | 23 21 19 | 28 22 27 |
| 10 17 50 | FEB. | 27 6 9 | 27 19 7 | 10 11 25 | MAR. | 25 10 8 | 25 16 11 |
| 10 17 59 | MAR. | 28 18 53 | 29 5 31 | | APRIL | 28 22 47 | 24 8 28 |
| | APRIL MAY. | 27 7 37 | 27 13 48 | | MAY . | 23 11 31 | 23 22 19 |
| | JUNE. | 26 20 21 25 9 5 | 26 20 50 | | 0 | (7 5 53 | 6 21 25 |
| | JULY. | 25 9 5 24 21 49 | 25 3 39 | | JUNE . | 22 0 15 | 22 9 52 |
| | 0 | (8 16 11 | 24 11 23 8 22 35 | | JULY. | 21 12 59 | 21 19 29 |
| | Aug. | 23 10 33 | 22 21 6 | | Aug | 20 1 43 | 20 4 2 |
| | SEPT. | 21 23 17 | 21 9 38 | | SEPT | 18 14 27 | 18 12 80 |
| | Ocr. | 21 12 1 | 21 1 15 | | Ocr | 18 3 11 | 17 21 42 |
| | Nov. | 20 0 45 | 19 19 27 | | Nov | 16 15 55 | 16 8 7 |
| | DEC. | 19 13 29 | 19 14 59 | | 0 | { 1 10 17 | 1 16 56 |
| | 1 | | | | DEC | (16 4 39 | 15 20 8 |

| APRIL 18 52 14 16 25 11 11 10 10 40 MAR 11 10 2 11 11 11 10 2 26 4 24 26 18 | | | | | 1 | | | | 1 | |
|--|----|---------|---------|--------|----------|----------|-----|-------|--------|----------|
| A.D. 1668. A.D. 1668. B.D. 20 68 7 29 25 8 8 April 16 28 14 16 26 14 16 28 14 16 16 16 16 16 16 16 16 16 16 16 16 16 | _ | 1 20.00 | Moon | Month. | Vernal | Moon. | n. | Moo | Month. | Vernal |
| March. d. h. m. 10 17 14 Feb. 13 6 8 | | | | | 1670. | | | | T | 1667. |
| Mar. 14 18 52 14 16 26 10 10 40 10 10 40 10 10 | 41 | 11 15 | 1 8 34 | JAN. | | | | 1 | | |
| MAR 14 18 52 14 16 26 10 10 40 MAR | 17 | | 9 21 18 | FEB | | | _ | | | d. h. m. |
| MAY 13 | | | 1 10 2 | MAR. | 10 10 40 | | | | | 10 17 14 |
| 1668 Jan. 4 2 13 8 21 40 Nov. 2 15 54 1 1 22 1 5 9 1 1 46 1 16 25 1 11 22 1 5 9 1 1 46 1 5 28 14 1 5 29 3 1 1 1 6 25 June 2 9 6 87 29 8 19 July 28 19 21 28 28 19 Aug. 27 8 5 6 27 18 24 Sept. 25 20 49 26 2 27 Oct. 25 9 88 25 14 86 Oct. 28 14 57 29 25 Oct. 25 9 88 25 14 86 Oct. 25 20 49 26 2 27 Oct. 25 9 88 25 14 86 Oct. 28 14 57 29 25 Oct. 25 9 88 25 14 86 Oct. 28 14 57 29 25 Oct. 25 9 88 25 14 86 Oct. 26 11 59 28 20 Oct. 26 21 47 26 12 Oct. 26 21 47 26 12 Oct. 26 21 47 26 12 Oct. 26 21 47 26 12 Oct. 25 9 88 25 14 86 Oct. 28 043 22 19 Oct. 25 20 49 26 2 27 Oct. 25 9 88 25 14 86 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 11 59 23 1 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 043 22 19 Oct. 28 044 Oct. 28 0 | | | 6 4 24 | 0 | | | | | | |
| June. 11 9 4 11 16 1 July . 10 21 48 2 9 17 10 Sept. 7 28 16 8 8 48 Oct. 7 12 0 7 18 46 Nov. 6 0 44 5 28 54 O Dec. 5 18 28 5 10 80 Feb. 2 14 57 2 9 25 May 0 16 28 81 16 5 40 May 0 15 28 16 5 28 19 June . 29 6 87 29 8 19 July . 28 19 21 28 28 19 Aug. 9 11 80 9 5 7 2 Aug. 6 1 42 5 16 Sept. 4 14 26 4 8 Oct. 4 3 10 4 2 Nov. 2 15 54 2 19 Dec. 5 18 28 5 10 80 1668. E.D. Feb. 2 14 57 2 9 25 A. | | | | APRIL | | 13 1 1 | , | 12 | 1 | |
| JUNE . 11 9 4 11 16 1 JULY . 10 21 48 11 5 24 AUG 9 10 32 9 17 10 Sept 7 28 16 8 8 48 Oct 7 12 0 7 18 46 Nov 6 0 44 5 28 54 O | 22 | 1 | 9 11 30 | MAY . | | 27 12 25 | | 1 - | 1 | |
| July 10 21 48 | 9 | 1 , | | June . | | 11 16 1 | 4 | 11 9 | JUNE. | |
| Aug 9 10 32 9 17 10 Sept 7 28 16 8 8 48 Oct 7 12 0 7 18 46 Nov 6 0 44 5 28 54 O | | | | JULY. | | 11 5 24 | 48 | 10 21 | July, | |
| Sept. 7 28 16 8 8 48 8 8 19 4 | | | | Aug. | | 9 17 10 | 32 | 9 10 | Aug | |
| Cct. 7 12 0 7 18 46 Nov. 6 0 44 5 28 54 Oct. 4 3 10 4 2 19 Oct. 5 18 28 5 10 80 Oct. 2 15 54 2 19 Oct. 5 18 28 5 10 80 Oct. 2 15 54 2 19 Oct. 6 0 44 5 28 54 Oct. 2 15 54 2 19 Oct. 6 0 49 Oct. 6 0 49 Oct. 6 0 0 49 Oct. 6 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 38 | | | _ | | 8 8 48 | 16 | 7 28 | SEPT | |
| Nov \begin{cases} 6 & 0 & 44 & 5 & 28 & 54 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & 0 & | 3 | | | 0 8 | | 7 18 46 | 0 | 7 12 | Oct | |
| 1668. Jan. 4 2 13 8 21 40 40 1671. Jan. 4 2 14 57 2 9 25 45 40 1671. Jan. 4 2 14 57 2 9 25 45 40 45 45 45 45 45 4 | 5 | | | | | 5 28 54 | 44 | 560 | Nov | |
| Dec. 5 18 28 5 10 80 Dec. \$\begin{array}{c c c c c c c c c c c c c c c c c c c | _ | | | | | 20 17 5 | 6 | 20 19 | 0 | |
| 1668. JAN 4 2 13 8 21 40 FEB 2 14 57 2 9 25 MAR 3 3 41 2 21 56 APRIL 1 16 25 1 11 22 (1 5 9 1 146 080 17 58 30 16 56 JUNE . 29 6 87 29 8 19 JULY . 28 19 21 28 28 19 AUG . 27 8 5 27 18 24 SEPT 25 9 83 5 81 7 19 Nov 28 22 17 24 2 8 Dec 31 17 22 31 17 22 31 17 22 31 17 22 30 18 30 16 56 JUNE . 29 6 87 29 8 19 JULY . 28 19 21 28 28 19 AUG . 27 8 5 27 18 24 SEPT 25 20 49 26 2 27 Oct 25 9 83 25 14 36 Oct 28 20 14 20 21 14 20 20 15 20 21 14 20 20 15 20 21 14 20 20 15 20 21 14 20 20 15 20 21 14 20 20 15 20 21 14 20 20 15 20 21 14 20 20 15 20 20 20 20 20 20 20 20 20 20 20 20 20 | | | | | | 5 10 80 | 28 | 5 18 | DEC | |
| 1668. Jan. 4 2 13 8 21 40 7 2 9 25 | 40 | | | DEC | | | | | | |
| E.D. FEB 2 14 57 2 9 25 APRIL 1 16 25 1 11 22 1 14 5 10 16 29 APRIL 1 16 25 1 11 22 10 16 APRIL 1 16 25 1 11 22 10 16 APRIL 1 16 25 1 14 46 10 16 29 APRIL 28 20 19 28 20 1 | | | | | | 8 21 40 | 13 | 4 2 | JAN. | 1668 |
| 9 28 8 MAR. 8 8 41 2 21 56 APRIL 1 16 25 1 11 22 1 5 9 1 1 46 MAY O 15 28 81 16 5 40 (80 17 58 80 16 56 JUNE 29 6 87 29 8 19 JULY 28 19 21 28 28 19 AUG. 27 8 5 27 18 24 SEPT. 25 20 49 26 2 27 Oct. 25 9 88 58 17 19 Nov. 28 22 17 24 2 8 Nov. 21 18 27 21 14 | 4 | | ··· | JAN } | 1671. | | | 1 | | |
| APRIL 1 16 25 1 11 22 | 11 | 50 17 | | | ▲. | | - " | | 1 | Q 22 2 |
| MAY O | 3 | 11 | | | | | | | | 3 20 Q |
| MAY O 15 28 81 16 5 40 (30 17 58 30 16 56 June 29 6 87 29 8 19 July 28 19 21 28 28 19 Aug. 27 8 5 27 18 24 Sept. 25 20 49 26 2 27 Oct. 25 9 88 5 8 17 19 Nov. 28 21 1 1 1 20 19 14 1 1 1 10 19 14 1 1 10 19 14 1 1 10 19 14 1 1 10 19 14 1 10 19 14 1 10 19 14 1 10 19 14 14 15 16 19 18 18 18 18 18 18 18 18 18 18 18 18 18 | 33 |) | | - 12 | 10 10 00 | | | | | |
| Superior | 4 | | | | 10 16 29 | | 1 | 1 | MAYO | |
| June . 29 6 87 29 8 19 July . 28 19 21 28 28 19 Aug 27 8 5 27 18 24 Sept 25 20 49 26 2 27 Oct 25 9 88 25 14 86 O { 9 8 55 8 17 19 Nov {28 22 17 24 2 8 Draw . 29 6 17 87 21 14 Nov 28 22 17 14 10 20 18 14 | | | | 1 | | | 1 | | 11111 | |
| July . 28 19 21 28 28 19 July . 26 10 31 25 22 Aug 27 8 5 27 18 24 Aug 24 23 15 24 10 Sept 25 20 49 26 2 27 Oot 25 9 88 25 14 86 Sept 25 2 17 24 2 8 Nov 28 11 59 23 1 Nov 28 22 17 24 2 8 Nov 21 18 27 21 14 | 15 | | | | | | | | Trive | |
| Aug. 27 8 5 27 18 24 Sept. 25 20 49 26 2 27 Oot. 25 9 88 25 14 86 O { 9 8 55 8 17 19} Nov. 28 22 17 24 2 8 Nov. 21 18 27 21 14 | | | | | | | | | | |
| Sept 25 20 49 26 2 27 Oot 25 9 88 25 14 86 O { 9 8 55 8 17 19 Nov { 28 22 17 24 2 8 Draw | | | | | | | | | | |
| Oct 25 9 88 25 14 86 Sept 28 11 59 23 1 O | 40 | | | | | | - 1 | | | |
| O { 9 8 55 8 17 19 Oct 28 0 48 22 19 Nov 28 11 1 1 20 10 14 | 6 | | | - 1 | | | | | | |
| Nov {28 22 17 24 2 8 Nov 21 18 27 21 14 | | 1 | | _ | | 1 | | | | * |
| Drg 99 11 1 90 10 14 | | 1 | | | | | | 2 | | |
| DEC. 25 11 1 25 15 14 DEC. 21 2 11 21 9 | | | | | | | | | (| |
| | 30 | 21 9 | 1 2 11 | DEC | | 25 15 14 | - | 20 11 | DEC | |
| JAN 19 14 55 20 2 | 36 | 20 2 | 9 14 55 | JAN | | | | 04 00 | _ | 4000 |
| 1669. JAN 21 28 45 21 28 56 1672. FHB 18 8 89 18 17 | 3 | 18 17 | 8 8 89 | FEB | | | | | | |
| C. FRE 20 12 29 20 10 20 G.F. O (8 22 1 8 16 | 33 | 3 16 | 8 22 1 | 0 1 | | | 1 | | | |
| | 39 | 19 4 | 8 16 23 | MAR. | 9 22 18 | | | | | 10 4 52 |
| APRIL 20 18 57 20 7 89 APRIL 17 5 7 17 18 | 46 | 17 13 | 7 5 7 | APRIL | | | - 1 | | | |
| MAY . 20 2 41 19 19 40 MAY . 46 17 51 16 21 | 12 | 16 21 | 6 17 51 | MAY . | | | | | | |
| | 56 | 15 8 | 5 6 35 | JUNE . | | | | | | |
| July . 18 4 9 18 0 10 July . 14 19 19 14 11 | 2 | 14 11 | 4 19 19 | JULY . | | | - 1 | | | |
| Aug 16 16 58 16 16 6 Aug (18 8 3 12 19 | 40 | 12 19 | 888 | AUG | | | 1 | | | |
| SEPT. 15 5 87 15 8 14 O \(\) \(\) \(\) \(\) 28 2 25 28 8 | 21 | 28 8 | 8 2 25 | 0 { | | - 11 | | | | |
| Oct 14 18 21 14 28 50 SEPT 11 20 47 11 6 | 46 | 11 6 | 1 20 47 | SEPT | | . 11 | | | | |
| Nov 18 7 5 18 14 26 Oct 11 9 31 10 20 | 56 | 10 20 | L 9 31 | Ост | | | | | | |
| DEC 12 19 49 18 8 45 Nov 9 22 15 9 14 | 2 | 9 14 | 22 15 | Nov. | | 18 8 45 | 49 | 12 19 | DEC | |
| DEC 9 10 59 9 9 | 8 | 9 9 | 10 59 | DEC | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|------------|---|--|
| A.D. 1673. E. | | d. h. m. | d. h. m. | A.D. 1676. | | d. h. m. | d. h. m. |
| March. | JAN | 7 28 44 | 8 4 44 | B.A. | JAN | 5 14 54 | 5 6 55 |
| d. h. m. | FEB | 6 12 28 | 6 23 3 | March. | FEB. | 4 3 38 | 3 20 56 |
| 10 4 7 | MAR | 8 1 12 | 8 14 51 | d. h. m. 9 21 33 | MAR. | 4 16 22 | 4 12 9 |
| | APRIL | 6 13 56 | 7 3 34 | | APRIL | 3 5 6 | 3 4 11 |
| | MAY . | 6 2 40 | 6 13 25 | | MAY . | 2 17 50 | 2 20 23 |
| | JUNE. | 4 15 24 | 4 21 12 | | | (1 6 34 | 1 11 58 |
| 1 | July. | 4 4 8 | 4 3 58 | | JUNE. | 30 19 18 | |
| | Aug | 2 16 52 | 5 2 10 52 | | JULY. | 30 8 2 | $\left\{ \begin{array}{cccc} 1 & 2 & 17 \\ 30 & 15 & 0 \end{array} \right\}$ |
| 1 | SEPT | ∫ 1 5 36 | 181 18 57 | | Aug. | 28 20 46 | 29 2 21 |
| | ~211 | (30 18 20 | 30 5 8 | | SEPT. | 27 9 30 | 27 12 50 |
| | Oct | 30 7 4 | 29 18 3 | | Oct | 26 22 14 | 26 28 6 |
| | Nov | 28 19 48 | 28 9 49 | | Nov. | 25 10 58 | 25 9 81 |
| | DEC | 28 8 32 | 28 3 53 | | DEC | 24 28 42 | 24 20 27 |
| | | | | | | 22 20 12 | |
| 1074 | _ 0 | 12 2 54 | 12 7 28 | 1677. | Tax | 00 10 00 | 00 77 477 |
| 1874. D. | JAN | 26 21 16 | 26 23 1 | G. | JAN Feb | 23 12 26 | 23 7 47 |
| | FEB | 25 10 0 | 25 17 39 | 10 3 22 | MAR. | 22 1 10 | 21 19 40 |
| 10 9 56 | MAR. | 26 22 44 | 27 10 23 | 10 0 22 | | 23 13 54 | 23 8 19 |
| | APRIL | 25 11 28 | 26 0 23 | | APRIL | 22 2 38 | 21 21 56 |
| | MAY . | 25 0 12 | 25 11 32 | | MAY. | 6 21 0 | 7 5 40 |
| | JUNE. | 23 12 56 | 23 20 24 | | June . | 21 15 22 | 21 12 35 20 3 51 |
| | _ O | 8 7 18 | 7 22 53 | | JULY. | 20 4 6 | 19 19 12 |
| į l | JULY. | 123 1 40 | 23 3 59 | | Aug. | 19 16 50 | 18 9 59 |
| | Aug | 21 14 24 | 21 11 25 | | SEPT. | 18 5 81 16 18 18 | 16 23 49 |
| | SEPT | 20 3 8 | 19 19 37 | | Oct. | (16 7 2 | 16 12 42 |
| | Oct Nov | 19 15 52 | 19 5 24 | | 0 | 31 1 24 | 30 13 4 |
| | | 18 4 36 | 17 17 18 | | Nov | 14 19 46 | 15 0 45 |
| | DEC | 17 17 20 | 17 7 27 | | DEC. | 14 8 30 | 14 12 11 |
| | 0 | (1 11 43 | 1 21 35 | | 220 | 14 0 00 | 13 12 11 |
| 1675. | JAN | 16 6 5 | 15 23 41 | 1678. | TAN | 10.01.11 | 10.00 # |
| C. | FEB | 14 18 49 | 14 17 14 | F. | JAN Feb | 12 21 15 | 12 23 5 |
| 10 15 45 | MAR. | 16 7 33 | 16 11 4 | 10 9 11 | Mar. | 11 9 59 | 11 9 29 |
| | APRIL | 14 20 17 | 15 3 59 | | APRIL | 12 22 43 | 12 19 86 11 5 53 |
| | MAY. | 14 9 1 | 14 19 4 | | O | $\begin{bmatrix} 11 & 11 & 27 \\ 26 & 5 & 49 \end{bmatrix}$ | 11 5 53 26 18 57 |
| | JUNE. | ∫12 21 45 | 13 7 50 | | MAY. | | 10 17 1 |
| | 0 | 27 16 7 | 27 5 47 | | JUNE. | 11 0 11 9 12 55 | 9 5 35 |
| 1 | JULY. | 12 10 29 | 12 18 26 | | JULY . | | 8 19 48 |
| | AυG | 10 23 13 | 11 3 35 | | Aug | 9 1 39 7 14 23 | 7 11 24 |
| | SEPT | 9 11 57 | 9 12 13 | | SEPT. | 6 3 7 | 6 3 42 |
| | Ост. | 9 0 41 | 8 21 11 | | Ocr. | (5 15 51 | 5 19 56 |
| | Nov. | 7 13 25 | 7 7 6 | | 0 | 20 10 18 | 19 21 58 |
| | DEC | 1.7 2 9 | 6 18 18 | | Nov | 4 4 35 | 4 11 23 |
| | 0 | 21 20 31 | 22 5 42 | | DEC. | 3 17 19 | 4 1 34 |
| | | | | | | 0 11 19 | - A OT |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|---------------|---|------------------------------------|----------------------------|----------------|---|------------------------------------|
| A.D. 1679. | | d. h. m. | d. h. m. | A.D. 1682. | | d. h. m. | d. h. m. |
| E. | JAN | $\begin{cases} 2 & 6 & 4 \\ 31 & 18 & 48 \end{cases}$ | 2 14 18 | A. | JAN | 28 9 58 | 28 18 5 |
| March. | FEB | | 1 1 31 | March. d. h. m. | O Feb | $\begin{cases} 12 & 4 & 20 \\ 26 & 22 & 42 \end{cases}$ | 12 1 26 27 11 12 |
| d. h. m. 10 15 0 | MAR | { 2 7 32 | 2 11 22 | 10 8 26 | MAR | 28 11 26 | 29 1 24 . |
| 20 20 0 | | 131 20 16 | 31 20 12 | | APRIL | 27 0 10 | 27 12 33 |
| | O April | 15 14 38 30 9 0 | 16 1 10 30 4 40 | | MAY . | 26 12 54 | 26 21 12 |
| | MAY. | 29 21 44 | 29 13 40 | | JUNE. | 25 1 38 | 25 4 21 |
| | JUNE . | 28 10 28 | 28 0 9 | | July. | 24 14 22 | 24 11 8 8 8 56 |
| | July . | 27 23 12 | 27 12 49 | | Aug | 23 3 6 | 22 18 36 |
| | Aug | 26 11 56 | 26 8 51 | | SEPT | 21 15 50 | 21 3 44 |
| | SEPT | 25 0 40 | 24 20 51 | | Oct | 21 4 84 | 20 15 19 |
| | 0 | ∮ 9 19 2 | 9 12 45 | | Nov | 19 17 18 | 19 5 42 |
| | Ocr | 124 13 24 | 24 14 49 | | DEC | 19 6 2 | 18 22 42 |
| | Nov | 28 2 8 | 28 8 83 | 1683. | JAN | 17 18 46 | 17 17 22 |
| | DEC | 22 14 52 | 28 0 55 | G. | 0 | ſ113 8 | 1 17 8 |
| 1680. | JAN | 21 3 36 | 21 15 11 | | FEB | 16 7 80 | 16 12 18 |
| D.C. | Fев | 19 16 20 | 20 3 5 | 10 14 15 | MAR | 17 20 14 | 18 6 0 |
| 9 20 49 | MAR. | 20 5 4 | 20 12 50 | | APRIL | 16 8 58 | 16 21 20 |
| | APRIL MAY. | 18 17 48 18 6 82 | 18 20 58 18 4 17 | | MAY. | 15 21 42 14 10 26 | 16 9 50 |
| | June . | 16 19 16 | 16 11 47 | | JUNE. JULY. | (13 28 10 | 14 19 47 14 3 59 |
| | July . | 16 8 0 | 15 20 34 | | 0 | 28 17 32 | 28 9 27 |
| | Aug | 14 20 44 | 14 7 89 | | Aug | 12 11 54 | 12 11 31 |
| | SEPT | 13 9 28 | 12 21 85 | | SEPT | 11 0 88 | 10 19 23 |
| | Oct | 12 22 12 | 12 14 21 | | Oct | 10 18 22 | 10 4 48 |
| | Nov | 11 10 56 | 11 9 2 | | Nov | 9 2 6 | 8 15 21 |
| | DEC | 10 28 40 | 11 4 16 | | DEC | 8 14 50 | 8 4 22 |
| 1681. | JAN | 9 12 25 | 9 22 26 | 1684. | JAN | 7 8 85 | 6 19 31 |
| в. | FEB | 8 1 9 | 8 14 17 | F.R. | FEB | 5 16 19 | 5 12 18 |
| 10 2 88 | O Mar | 9 13 58 | 22 18 82 10 8 18 | 9 20 4 | MAR. | 6 5 8 | 6 5 53 4 23 12 |
| 10 2 00 | APRIL | 8 2 87 | 10 8 18 8 13 24 | | MAY . | 4 6 81 | 4 15 11 |
| | MAY. | 7 15 21 | 7 21 28 | | JUNE . | (2 19 15 | 8 5 9 |
| | June . | 6 4 5 | 6 4 19 | | 0 | 17 18 87 | 17 4 84 |
| | July. | 5 16 49 | 5 11 5 | | T | f 2 7 59 | 2 16 53 |
| | Aug | ∫ 4 5 88 | 8 18 50 | | JULY. | 181 20 48 | (1 2 50 |
| | 0 | 18 28 55 | 19 5 48 | | Aug | 80 9 27 | {30 11 50 |
| | SEPT | 2 18 17 | 2 4 40 | | SEPT. | 28 22 11 | 28 20 45 |
| | Oct | $\begin{cases} 2 & 7 & 1 \\ 81 & 19 & 45 \end{cases}$ | 1 17 20 | | Oct | 28 10 55 26 28 39 | 28 6 20 26 16 57 |
| | Nov | 80 8 29 | 81 9 6 80 8 25 | | Nov. | (11 18 1 | 12 1 7 |
| | DEC | 29 21 18 | 29 22 57 | | DEC. | 26 12 28 | 26 4 48 |
| | Maria II. | | | 1 | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. O Full Ecl. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|----------------------------|--------|-----------------------------------|----------------------------------|----------------------------|--------|-----------------------------------|----------------|
| A.D. 1685. | | d. h. m. | d. h. m. | A.D. 1688. | | d. h. m. | d. h. m. |
| March. | JAN | 25 1 8 | 24 17 59 | A.G. | JAN | 22 16 17 | 28 0 28 |
| d. h. m. | FEB | 23 13 52 | 23 8 22 | March. $d. h. m.$ | FEB | 21 5 1 | 21 10 51 |
| 10 1 53 | MAR | 25 2 36 | 24 23 45 | 9 19 19 | MAR | 21 17 45 | 21 19 56 |
| 1 | APRIL | 23 15 20 | 23 15 43 | | 0 | (5 12 7 | 5 20 88 |
| ŀ | MAY. | 23 4 4 | 23 7 35 | | APRIL | 20 6 29 | 20 4 17 |
| | 0 | 6 22 26 | 6 19 51 | | MAY . | 19 19 13 | 19 12 42 |
| | JUNE. | 21 16 48 | 21 22 35 | | JUNE . | 18 7 57 | 17 22 10 |
| | JULY. | 21 5 32 | 21 12 16 | İ | JULY . | 17 20 41 | 17 9 85 |
| | Aug | 19 18 16 | 20 0 30 | 1 | Aug | 16 9 25 | 15 28 28 |
| | SEPT | 18 7 0 | 18 11 36 | i | SEPT | (14 22 9 | 14 15 42 |
| | Ост | 17 19 44 | 17 22 11 | | 0 | 29 16 81 | 29 12 18 |
| | Nov | 16 8 28 | 16 8 41 | | Oct | 14 10 53 | 14 9 41 |
| | 0 | § 1 2 50 | 1 1 1 | | Nov | 12 28 37 | 18 8 46 |
| | Dec | (15 21 12 | 15 19 27 | | DEC | 12 12 21 | 12 21 7 |
| | | | | 1000 | _ | | |
| 1686. | JAN | 14 9 56 | 14 6 29 | 1689. F. | JAN | 11 1 5 | 11 12 85 |
| C. | FEB | 12 22 40 | 12 17 53 | | FEB | 9 13 49 | 10 1 40 |
| 10 7 42 | MAR. | 14 11 24 | 14 5 49 | 10 1 8 | Mar. | $\{11 \ 2 \ 84\}$ | 11 12 20 |
| | APRIL | 13 0 8 | 12 18 38 | | 0 | (25 20 56) | 25 20 48 |
| | MAY . | (12 12 52 | 12 8 31 | | APRIL | 9 15 18 | 9 21 2 |
| | 0 | 27 7 14 | 27 13 7 | | MAY . | 9 4 2 | 9 4 29 |
| | JUNE . | 11 1 36 | 10 23 24 | | June . | 7 16 46 | 7 11 87 |
| | JULY. | 10 14 20 | 10 14 48 | | JULY. | 7 5 80 | 6 19 84 |
| | AUG | 9 3 4 | .9 6 5 | | Aug | 5 18 14 | 5 5 22 |
| | SEPT | 7 15 48 | 7 20 42 | | Sept | § 4 6 58 | 8 17 58 |
| | Ocr | 7 4 32 | 7 10 21 | | 0 | (19 1 20 | 19 4 14 |
| | Nov | 5 17 16 | 5 23 5 | | Oct | 8 19 42 | 8 9 23 |
| | 0 | (20 1 1 3 8 | 20 1 23 | | Nov | 2 8 26 | 2 8 28 |
| | Dec | 5 6 0 | 5 10 58 | | DEC. | § 1 21 10 | 1 22 40 |
| | | | | | | (81 9 54 | 81 17 87 |
| 1687. | JAN. | 3 18 45 | 3 22 11 | 1690. | JAN. | 29 22 38 | 80 10 46 |
| В. | FEB | 2 7 29 | 2 8 43 | E. | FEB | 28 11 22 | 1 1 9 |
| 10 13 31 | MAR | 3 20 13 | 3 18 44 | | 0 | (15 5 44 { | 15 0 16 |
| | APRIL | 2 8 57 | 2 4 35 | 10 6 57 | MAR. | (30 0 7 | 80 12 84 |
| | M | (12141 | 1 14 57 | | APRIL | 28 12 51 | 28 21 29 |
| | MAY . | 81 10 25 | 31 2 31 | | MAY . | 28 1 35 | 28 4 48 |
| | JUNE. | 29 23 9 | 29 15 47 | | JUNE . | 26 14 19 | 26 11 22 |
| | JULY. | 29 11 53 | 29 6 45 | İ | JULY. | 26 3 3 | 25 18 80 |
| | Aug | 28 0 37 | 27 22 52 | | A.ug | 24 15 47 | 24 8 14 |
| ļ | SEPT | 26 13 21 | 26 15 34 | | 0 | 8 10 9 | 8 15 50 |
| | Ост | 26 2 5 | 26 7 46 | ļ | | 23 4 31 | 22 14 28 |
| | Nov. | 24 14 49 | 24 22 53 | 1 | Oct. | 22 17 15 | 22 4 47 |
| | DEC. | 24 3 33 | 24 12 31 | | Nov | 21 5 59 | 20 22 O |
| | 1 | | | | DEC | 20 18 48 | 20 17 7 |

| 1 | | | 1 | | | | |
|----------------------------|--------|------------------------------------|----------------|----------------------------|--------|------------------------------------|-------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. |
| A.D. 1691. | | d. h. m. | d. h. m. | A.D. 1694. | | d. h. m. | d. h. m. |
| March. | JAN | 19 7 27 | 19 12 37 | G. | ١ ٥ | (1 4 15 | 1 13 57 |
| d. h. m. | FEB | 17 20 11 | 18 6 50 | March. | JAN | 15 22 37 | 15 15 33 |
| 10 12 46 | MAR | 19 8 55 | 19 22 29 | d. h. m. | FEB | 14 11 21 | 14 5 5 |
| | APRIL | 17 21 39 | 18 11 3 | 10 6 12 | MAR. | 16 0 5 | 15 19 43 |
| 1 | MAY . | 17 10 23 | 17 20 48 | | APRIL | 14 12 49 | 14 11 10 |
| | June . | 15 23 7 | 16 4 35 | | MAY . | 14 1 33 | 14 2 59 |
| | JULY . | 15 11 51 | 15 11 27 | | JUNE. | (12 14 17 | 12 18 27 |
| | Aug | 14 0 85 | 13 18 33 | | 0 | 27 8 39 | 27 3 1 |
| | SEPT | 12 13 19 | 12 2 52 | | JULY . | 12 3 1 | 12 8 56 |
| | Oct | 12 2 3 | 11 13 16 | | Aug | 10 15 45 | 10 22 5 |
| | Nov | 10 14 47 | 10 2 18 | | SEPT | 9 4 29 | 9 9 58 |
| | DEC | 10 3 31 | 9 18 2 | | Ocr | 8 17 18 | 8 21 2 |
| 1 | | | | | Nov | 7 5 57 | 7 7 45 |
| 1692. | JAN | (8 16 16 | 8 11 55 | | DEC | 6 18 41 | 6 18 30 |
| C.B. | 0 | 23 10 38 | 23 16 21 | 1695. | JAN. | 5 7 26 | E 70. |
| ļ | FEB | 7 5 0 | 7 6 45 | F. | FEB. | 3 20 10 | 5 5 24 3 16 27 |
| 9 18 35 | MAR | 7 17 44 | 8 1 4 | 10 12 1 | MAR. | 5 8 54 | |
| | APRIL | 6 6 28 | 6 17 84 | 10 12 1 | APRIL | 8 21 38 | 20 |
| | MAY. | 5 19 12 | 6 7 29 | | MAY. | (8 10 22 | |
| | JUNE . | 4 7 56 | 4 18 38 | | 0 | 18 4 44 | 3 4 56 18 13 9 |
| | July . | 3 20 40 | 4 8 41 | | June . | 1 28 6 | 1 19 8 |
| | 0 | 18 15 2 | 18 5 84 | | | (11150 | 1 10 18 |
| | Aug | 5 2 9 24 | 2 11 88 | | July. | 131 0 34 | 81 1 48 |
| | 1200 | 81 22 8 | 31 19 19 | | Aug | 29 13 18 | 29 17 2 |
| | SEPT | 80 10 52 | 80 8 51 | | SEPT. | 28 2 2 | 28 7 80 |
| } | Ocr | 29 23 36 | 29 13 56 | | Ост. | 27 14 46 | 27 20 58 |
| | Nov | 28 12 20 | 28 1 55 | | 0 | (11 9 8 | 10 21 11 |
| | DEC | 28 1 4 | 27 15 56 | | Nov | 26 8 80 | 26 9 80 |
| | | | | | DEC | 25 16 14 | 25 21 8 |
| | 0 | (11 19 27 | 12 6 15 | 1696. | Jan | 24 4 59 | 24 7 57 |
| 1693. | JAN | 26 18 49 | 26 7 47 | E.D. | FEB. | 22 17 48 | 22 18 2 |
| ۸. | FEB | 25 2 83 | 25 0 51 | 9 17 50 | MAR. | 23 6 27 | 23 3 40 |
| 10 0 24 | MAR | 26 15 17 | 26 18 12 | 0 21 00 | Arril | 21 19 11 | 21 18 25 |
| | APRIL | 25 4 1 | 25 10 49 | | 0 | (6 18 88 | 7 2 11 |
| | MAY. | 24 16 45 | 25 1 49 | | MAY . | 21 7 55 | 21 0 4 |
| | June. | 28 5 29 | 28 14 42 | | JUNE . | 19 20 39 | 19 12 17 |
| | _ 0 | 7 23 51 | 7 12 52 | | JULY . | 19 9 28 | 19 2 21 |
| | JULY. | (22 18 18 | 23 1 88 | | Aug. | 17 22 7 | 17 18 6 |
| | Aug | 21 6 57 | 21 11 12 | | SEPT | 16 10 51 | 16 10 50 |
| | SEPT | 19 19 41 | 19 20 19 | | Ocr | (15 28 85 | 16 8 38 |
| 1 | Oct. | i | 19 5 42 | | 0 | 80 17 57 | 80 6 24 |
| 1 | Nov. | | 17 15 58 | | Nov | 14 12 19 | 14 19 88 |
| | DEC | 17 9 58 | 17 8 10 | . | Dac | 14 1 8 | 14 10 14 |
| | | | i | | | 34 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------|----------------------------------|
| A.D. 1697. | | d. h. m. | d. h. m. | A.D. 1700. | | d. h. m. | d. h. m. |
| c. March. | JAN. | 12 13 48 | 12 23 6 | G.F. | JAN | 10 4 57 | 10 6 53 |
| d. h. m. | Fев | 11 2 32 | 11 10 11 | | FEB | (8 17 41 | 9 1 52 |
| 9 23 39 | MAR | 12 15 15 | 12 19 42 | March. $d. h. m.$ | 0 | 28 12 3 | 23 9 54 |
| | APRIL | 11 3 59 | 11 4 7 | 9 17 5 | MAR | 9 6 25 | 9 18 49 |
| | 0 | 25 22 21 | 26 7 57 | | APRIL | 7 19 9 | 8 8 52 |
| | MAY. | 10 16 43 | 10 12 10 | | MAY. | 7 7 58 | 7 19 55 |
| | JUNE . | 9 5 27 | 8 20 49 | | JUNE. | 5 20 37 | 6 4 34 |
| | JULY. | 8 18 11 | 8 7 3 | | July. | 5 9 21 | 5 11 47 |
| | Aug | 7 6 55 | 6 19 38 | | Aug | (3225 | 8 18 44 |
| | SEPT | 5 19 39 | 5 10 50 | | 0 | 18 16 27 | 18 15 40 |
| | Oct | (5 8 23 | 5 4 9 | | SEPT. | 2 10 49 | 2 2 27 |
| | 0 | 20 2 45 | 19 21 14 | | SEPT. | | 1 11 51 |
| | Nov | 3 21 7 | 3 22 34 | | Ост | 1 23 33 | |
| | DEC. | 8 9 51 | 3 16 42 | | 37 | (31 12 17 | 30 23 37 |
| | | 0 0 01 | 3 10 42 | | Nov | 30 1 1 | 29 14 1 |
| 1600 | _ | (1 22 36 | 2 9 21 | | DEC | 29 13 45 | 29 6 51 |
| 1698. в. | JAN | 81 11 20 | 31 23 41 | 1701. | JAN | 28 2 30 | 28 1 14 |
| | FEB | | | E. | | (11 20 52 | 12 1 51 |
| 10 7 00 | | (204 | 2 11 27 | | 0 | 11 | |
| 10 5 28 | MAR | 31 12 48 | 81 20 55 | 0.00.54 | FEB | | |
| | APRIL | 30 1 32 | 30 4 43 | 9 22 54 | MAR | 28 3 58 | 28 18 12 |
| | MAY. | 29 14 16 | 29 11 46 | | APRIL | 26 16 42 | 27 4 28 |
| | JUNE. | 28 3 0 | | | MAY. | 26 5 26 | 26 16 58 |
| | JULY. | 27 15 44 | 27 19 5 27 3 48 | | JUNE. | 24 18 10 | 25 2 58 |
| | Aug. | 26 4 28 | | | JULY. | 24 6 54 | 24 11 25 |
| | SEPT. | | 25 14 55 | | . 0 | 8 1 16 | 7 16 11 |
| 1 12 | 0 | 24 17 12 | 24 4 59 | | Aug | (22 19 38 | 22 19 17 |
| | 37 | 000 | 23 21 58 | | SEPT | 21 8 22 | 21 8 82 |
| | | 22 18 40 | 22 16 54 | | Oct | 20 21 6 | 20 12 56 |
| | DEC | 22 7 24 | 22 12 18 | | Nov | 19 9 50 | 19 0 1 |
| 1699. | JAN | 20 20 . 9 | 21 6 34 | | DEC | 18 22 34 | 18 12 59 |
| A. | FEB. | 19 8 53 | | | | | |
| | · · | 1 | 19 22 22 | 1702. | JAN | 17 11 18 | 17 4 9 |
| 10 11 17 | MAR | 6 8 15 | 5 21 31 | D. | FEB | 16 0 2 | 15 20 6 |
| 10 11 17 | APRIL | 20 21 37 | 21 11 11 | 10 4 43 | MAR | 17 12 46 | 17 18 11 |
| | | 19 10 21 | 19 21 8 | | APRIL | 16 1 30 | 16 6 6 |
| | MAY . | 18 23 5 | 19 5 1 | | MAY . | 15 14 14 | 15 21 58 |
| | JUNE . | 17 11 49 | 17 11 47 | | June . | 14 2 58 | 14 11 52 |
| | JULY. | 17 0 33 | 16 18 32 | | July. | 13 15 42 | 18 28 52 |
| | Aug | 15 13 17 | 15 2 24 | | Aug | 12 4 26 | 12 10 15 |
| | 0 | (30 7 39 | 30 12 57 | | SEPT | 10 17 10 | 10 19 48 |
| | SEPT | 14 2 1 | 13 12 23 | | Oct | 10 5 54 | 10 5 6 |
| | Ост. | 13 14 45 | 13 1 12 | | Nov | 8 18 38 | 8 15 2 |
| | Nov. | 12 3 29 | 11 17 4 | | DEC. | (8 7 22 | |
| | DEC. | 11 16 13 | | | DEC. | 1 0 4 22 | 8 1 50 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon, () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|--|-------------|------------------------------------|------------------------------|
| A.D. 1703. | | d. h. m. | d. h. m. | A.D. 1706. | | d. h. m. | d. h. m. |
| C. | JAN | 6 20 7 | 6 13 36 | F. | Jan | 3 11 16 | 3 21 14 |
| March. $d. h. m.$ | FEB | 5 8 51 | 5 2 21 | $\begin{array}{c c} \text{March.} \\ d. & h. & m. \end{array}$ | FEB | 2 0 0 | 2 9 10 |
| 10 10 32 | MAR | 6 21 35 | 6 16 10 | 10 8 58 | MAR | 8 12 45 | 3 19 19 |
| | APRIL | 5 10 19 | 5 6 57 | | APRIL | (2 1 29 | 2 4 1 |
| | MAY . | 4 23 3 | 4 22 26 | | 0 | 16 19 51 | 17 3 36 |
| 1 | June . | 3 11 47 | 3 14 3 | | 70 | (1 14 13 | 1 11 56 |
| | 0 | 18 6 9 | 18 3 17 | | MAY. | 31 2 57 | 30 19 59 |
| | July. | 8 0 31 | 8 5 8 | | June . | 29 15 41 | 29 5 12 |
| | A *** | ſ 1 13 15 | 1 19 7 | | JULY. | 29 4 25 | 28 16 30 |
| | Aug | \81 1 59 | 31 7 52 | | Aug | 27 17 9 | 27 6 25 |
| | SEPT | 29 14 48 | 29 19 35 | | SEPT | 26 5 58 | 25 22 55 |
| | Ост | 29 3 27 | 29 6 41 | | 0 | ∫11 0 15 | 10 20 42 |
| | Nov | 27 16 11 | 27 17 81 | | Ocr | 25 18 37 | 25 17 8 |
| | 0 | ∫12 10 88 | 12 8 57 | | Nov | 24 7 21 | 24 11 46 |
| | DEC | 27 4 55 | 27 4 25 | | DEC | 28 20 5 | 24 5 26 |
| | | | | 1707. | JAN | 22 8 49 | 22 21 2 |
| 1704. | JAN | 25 17 40 | 25 15 18 | E. | FEB. | 20 21 83 | 21 10 2 |
| B.A. | FEB | 24 6 24 | 24 2 16 | 10 9 47 | MAR. | 22 10 18 | 22 20 30 |
| 9 16 21 | MAR | 24 19 8 | 24 13 86 | 20 0 21 | 0 | (6 4 40 | 6 3 49 |
| | APRIL | 23 7 52 | 28 1 49 | | APRIL | 20 28 2 | 21 4 52 |
| | MAY . | 22 20 36 | 22 15 14 | | MAY. | 20 11 46 | 20 12 2 |
| Į | 0 | 6 14 58 | 6 20 84 | | June . | 19 0 30 | 18 19 1 |
| | June . | 21 9 20 | 21 5 52 | | July. | 18 18 14 | 18 2 51 |
| | JULY. | 20 22 4 | 20 21 19 | | Aug. | 17 1 58 | 16 12 40 |
| | Aug | 19 10 48 | 19 12 56 | | SEPT. | (15 14 42 | 15 1 17 |
| | SEPT | 17 28 82 | 18 4 6 | | 0 | 80 9 4 | 80 12 22 |
| | Oct | 17 12 16 | 17 18 24 | | Ocr | 15 8 26 | 14 16 58 |
| | Nov | (16 1 0 | 16 7 89 | | Nov. | 18 16 10 | 18 11 10 |
| | 0 | 30 19 22 | 80 9 84 | | DEC. | 18 4 54 | 18 6 88 |
| | DEC | 15 13 44 | 15 19 52 | 1708. | | 11 17 88 | 12 1 42 |
| | | | | D.C. | JAN Feb | 10 6 22 | 10 18 49 |
| 1705. | JAN | 14 2 28 | 14 7 6 | 9 15 36 | | (10 19 6 | 11 9 6 |
| G. | FEB | 12 15 12 | 12 17 24 | 0 10 00 | MAR. | 25 18 28 | 25 7 58 |
| 9 22 10 | MAR. | 14 8 56 | 14 2 58 | | | 9 7 50 | 9 20 19 |
| J | APRIL | 12 16 40 | 12 12 19 | | APRIL MAY . | 8 20 84 | 1 1 1 1 1 1 1 1 1 1 |
| | MAY. | 12 10 40 | 11 22 10 | | JUNE . | 7 9 18 | 9 5 2 7 12 11 |
| | June . | 10 18 8 | 10 9 20 | | JULY. | 6 22 2 | 6 18 48 |
| | JULY. | 10 6 52 | 9 22 28 | | Aug. | 5 10 46 | 5 2 2 |
| | Aug. | 8 19 86 | 8 18 28 | | SEPT. | (8 28 80 | 8 10 55 |
| | SEPT. | 7 8 20 | 7 5 58 | | O O | 18 17 52 | 18 28 24 |
| | Ост | 6 21 4 | 6 23 2 | | | 8 12 14 | 2 22 20 |
| | Nov | 5 9 48 | 5 15 47 | | Nov. | 2 0 58 | 1 12 46 |
| | DEC | 4 22 32 | 5 7 22 | | | (1 18 42 | 161 |
| | | | | | DEC | 81 2 26 | 81 1 5 |
| | | l i | U 15 | | I | (OT 5 50 | 10世纪 电电影 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect. | True New Moon. (O Full Ecl. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|-----------------------------------|-----------------------------------|
| A.D. 1709. | | d. h. m. | d. h. m. | A.D. 1712. | | d. h. m. | d. h. m. |
| В. | JAN | 29 15 11 | 29 20 27 | F.E. | | (12 11 59 | 12 22 10 |
| March. d. h. m. | FEB | 28 3 55 | 28 14 29 | | JAN | K27 6 21 | 27 0 8 |
| 9 21 25 | MAR | 29 16 39 | 30 5 57 | d. h. m. | FEB | 25 19 5 | 25 18 9 |
| | APRIL | 28 5 23 | 28 18 24 | 9 14 52 | MAR. | 26 7 49 | 26 8 9 |
| | MAY . | 27 18 7 | 28 4 8 | | APRIL | 24 20 33 | 24 18 4 |
| | JUNE. | 26 6 51 | 26 11 58 | | MAY . | 24 9 17 | 24 9 82 |
| | Jury. | 25 19 35 | 25 19 0 | | JUNE . | 22 22 1 | 28 0 55 |
| | Aug | 24 8 19 | 24 2 21 | | 0 | (7 16 28 | 7 10 26 |
| | SEPT | 22 21 3 | 22 10 56 | | JULY . | 22 10 45 | 22 15 88 |
| | Ост | 22 9 47 | 21 21 35 | | Aug. | 20 23 29 | 21 5 15 |
| | Nov | 20 22 31 | 20 10 42 | | SEPT | 19 12 13 | 19 17 44 |
| | Dec | 20 11 15 | 20 2 20 | | Ост. | 19 0 57 | 19 5 22 |
| | | | | | Nov. | 17 18 41 | 17 16 92 |
| 1710. | Jan | 19 0 0 | 18 19 55 | | DEC. | 17 2 25 | 17 8 29 |
| Α. | 0 | (2 18 22 | 3 1 6 | | | | |
| | FEB. | 17 12 44 | 17 14 22 | 1713. | JAN | 15 15 10 | 15 14 18 |
| 10 3 14 | MAR. | 19 1 28 | 19 8 21 | D. | FEB | 14 3 54 | 14 1 0 |
| | APRIL | 17 14 12 | 18 0 38 | 9 20 40 | MAR | 15 16 8 8 | 15 11 51 |
| | MAY . | 17 2 56 | 17 14 27 | | APRIL | 14 5 22 | 18 28 17 |
| | JUNE . | 15 15 40 | 16 1 43 | | MAY . | ∫18 18 6 | 18 11 49 |
| | JULY. | (15 4 24 | 15 10 59 | | 0 | 28 12 28 | 28 20 85 |
| | 0 | 29 22 46 | 29 12 19 | , | June . | 12 6 50 | 12 1 41 |
| | AUG | 13 17 8 | 13 19 12 | | JULY . | 11 19 34 | 11 16 45 |
| | SEPT | 12 5 52 | 12 8 20 | | Aug. | 10 8 18 | 10 8 80 |
| | Ост | 11 18 36 | 11 12 15 | | SEPT | 8 21 2 | 9 0 14 |
| | Nov | 10 7 20 | 9 22 35 | | Oct | 8 9 46 | 8 15 17 |
| | DEC | 9 20 4 | 9 10 37 | | Nov. | 6 22 80 | 7 5 21 |
| | | | | | í | 21 16 52 | 21 5 26 |
| 1711. | JAN. | r 8 8 48 | 8 0 25 | | DEC. | 6 11 14 | 6 18 16 |
| G. | 0 | 23 3 10 | 23 14 51 | 1714. | JAN. | 4 28 58 | 5 6 8 |
| | FEB | 6 21 32 | 6 15 50 | c. | FEB | 8 12 42 | 8 16 44 |
| 10 9 3 | MAR. | 8 10 16 | 8 8 20 | 10 2 29 | MAR | 5 1 26 | 5 2 27 |
| | APRIL | 6 23 0 | 7 1 13 | l | APRIL | 8 14 10 | 8 11 85 |
| , | MAY . | 6 11 44 | 6 17 32 | | MAY . | (3 2 54 | 2 20 51 |
| | June. | 5 0 28 | 5 8 27 | | 0 | 17 21 16 | 18 9 18 |
| | JULY. | (4 13 12 | 4 21 32 | | JUNE. | 1 15 38 | 172 |
| | 0 | 19 7 34 | 18 20 0 | | Trrr | 1 4 22 | 80 18 58 |
| | A.UG | 3 1 56 | 3 8 50 | | JULY . | 80 17 6 | 30 9 0 |
| | SEPT | 1 14 40 | 1 18 54 | | AUG | 29 5 50 | 29 0 56 |
| | Ocr. | 1 3 24 | 1 4 30 | | SEPT | 27 18 84 | 27 18 5 |
| | | 30 16 8 | 30 14 19 | | Ocr | 27 7 18 | 27 11 25 |
| | Nov. | 29 4 52 | 29 0 47 | | 0 | 11 1 40 | 10 14 58 |
| | DEC. | 28 17 36 | 28 12 1 | | | 25 20 2 | 26 8 56 |
| | | | - | | DEC | 25 8 46 | 25 18 50 |
| | | | - 1 | | 1 | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1715. | | d. h. m. | d. h. m. | A.D. 1718. | | d. h. m. | d. h. m. |
| B. March. | JAN | 28 21 31 | 24 7 48 | E. | JAN | 20 12 41 | 20 14 46 |
| d. h. m. | FEB | 22 10 15 | 22 18 44 | 35 1 | FEB. | 19 1 25 | 19 9 33 |
| 10 8 18 | MAR | 28 22 59 | 24 8 54 | d. h . m . | 0 | (5 19 47 | 5 18 15 |
| | APRIL | 22 11 43 | 22 11 55 | 10 1 44 | MAR | 20 14 9 | 21 2 19 |
| | 0 | 7 6 5 | 7 14 45 | | APRIL | 19 2 53 | 19 16 13 |
| | MAY . | 22 0 27 | 21 19 36 | | MAY . | 18 15 37 | 19 3 12 |
| | JUNE . | 20 13 11 | 20 3 58 | | JUNE . | 17 4 21 | 17 11 58 |
| | July. | 20 1 55 | 19 14 8 | | JULY. | 16 17 5 | 16 19 52 |
| | Aug | 18 14 39 | 18 2 39 | | Aug | (15 5 49 | 15 2 27 |
| | SEPT | 17 3 23 | 16 17 59 | | 0 | 80 0 11 | 29 22 33 |
| | Ocr | 16 16 7 | 16 11 87 | | SEPT. | 18 18 33 | 13 10 27 |
| | 0 | 81 10 29 | 81 5 58 | | Oct | 13 7 17 | 12 20 8 |
| | Nov | 15 4 51 | 15 6 23 | | Nov | 11 20 1 | 11 8 3 |
| | DEC | 14 17 35 | 15 0 58 | | DEC | 11 8 45 | 10 22 26 |
| 1710 | ~ | | | | | | |
| 1716. a.g. | JAN | 13 6 19 | 18 17 48 | 1719. | JAN | 9 21 29 | 9 15 1 |
| | FEB | 11 19 8 | 12 8 8 | D, | FEB | (8 10 13 | 8 8 59 |
| 9 14 7 | MAR. | 12 7 47 | 12 19 87 | | 0 | 28 4 85 | 23 10 24 |
| | APRIL | 10 20 31 | 11 4 49 | 10 7 83 | MAR. | 9 22 57 | 10 3 10 |
| | MAY. | 10 9 15 | 10 12 21 | | APRIL | 8 11 41 | 8 20 16 |
| | JUNE. | 8 21 59 | 8 19 11 | | MAY . | 8 0 25 | 8 11 18 |
| | JULY. | 8 10 48 | 8 2 25 | | JUNE. | 6 13 9 | 6 23 49 |
| | A.ug | 6 28 27 | 6 11 7 | | JULY . | 6 1 53 | 6 10 7 |
| | SEPT. | 5 12 11 | 4 22 18 | | Aug | (4 14 87 | 4 18 53 |
| | Our. | 5 0 55 | 4 12 88 | | 0 | (19 8 59 | 18 23 3 |
| | Nov | 8 18 89 | 8 5 41 | | SEPT | 8 8 21 | 8 8 9 |
| | DEC | 8 2 28 | 8 0 47 | | Oct | 2 16 5 | 5 2 11 49 |
| | | (1158 | 1 20 20 | | Nov | 1 4 49 | 181 21 82 |
| 1717. F. | JAN | 81 8 52 | 81 14 88 | | 1101. | 180 17 88 | 30 8 46 |
| | FEB | | | | DEC | 80 6 17 | 29 21 37 |
| | | (1 16 86 | 2 6 17 | | | | |
| 9 19 56 | MAR. O | 16 10 58 | 16 5 28 | 1720. | JAN | 28 19 2 | 28 12 4 |
| | | 81 5 20 | 81 18 56 | Ç.B. | FEB | 27 7 46 | 27 8 50 |
| | APRIL | 29 18 4 | 80 4 44 | 9 18 22 | MAR | 27 20 30 | 27 20 21 |
| : | MAY. | 29 6 48 | 29 12 29 | | APRIL | 26 9 14 | 26 12 52 |
| | JUNE . | 27 19 82 | 27 19 18 | | MAY . | 25 21 58 | 26 4 29 |
| | July. | 27 8 16 | 27 2 4 | | JUNE . | 24 10 42 | 24 18 84 |
| | Aug | 25 21 0 | 25 10 8 | | JULY. | 28 23 26 | 24 6 58 |
| , | 0 | 9 15 22 | 9 20 17 | | Aug | 22 12 10 | 22 17 44 |
| | SEPT | 24 9 44 | 28 20 18 | | SEPT | 21 0 54 | 21 8 44 |
| | Oct | 23 22 28 | 28 9 12 | | Ocr | 20 13 38 | 20 13 87 |
| | Nov | 22 11 12 | 22 1 8 | | Nov | 19 2 22 | 18 23 53 |
| | DEC | 21 23 56 | 21 19 25 | | DEC | 18 15 6 | 18 10 46 |
| | 1 | | | | | | Clay 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1721. | | d. h. m. | d. h. m. | A.D. 1724. | | d. h. m. | d. h. m. |
| A. | 0 | ſ 2 9 28 | 2 17 24 | E.D. | JAN | 14 19 0 | 15 5 55 |
| March. | JAN | 17 8 51 | 16 22 21 | March. $d. h. m.$ | FEB | 13 7 44 | 13 17 46 |
| \vec{d} . h . m . | FEB | 15 16 35 | 15 10 40 | 9 12 37 | MAR | 13 20 29 | 14 3 38 |
| 9 19 11 | MAR | 17 5 19 | 16 23 52 | | APRIL | (12 9 13 | 12 11 58 |
| | APRIL | 15 18 3 | 15 14 3 | | 0 | 27 3 35 | 27 10 24 |
| | MAY. | 15 6 47 | 15 5 4 | | MAY . | 11 21 57 | 11 19 31 |
| | JUNE . | 13 19 31 | 13 20 29 | | JUNE. | 10 10 41 | 10 3 16 |
| | 0 | \(28 13 53 \) | 28 10 43 | | JULY. | 9 23 25 | 9 12 17 |
| | JULY. | 13 8 15 | 13 11 41 | | Aug | 8 12 9 | 7 23 32 |
| | Aug | 11 20 59 | 12 2 5 | | SEPT | 7 0 58 | 6 13 34 |
| | SEPT | 10 9 43 | 10 15 24 | | Oct | 6 13 37 | 6 6 17 |
| | Oct | 9 22 27 | 10 3 42 | | 0 | 21 7 59 | 21 5 15 |
| | Nov | 8 11 11 | 8 15 19 | | Nov | 5 2 21 | 5 0 49 |
| | DEC | 7 23 55 | 8 2 31 | | DEC | 4 15 5 | 4 19 48 |
| | 0 | 122 18 17 | 22 16 55 | | | - | |
| | | | | 1725. c. | JAN | 3 3 50 | 3 13 44 |
| 1722. | JAN | 6 12 39 | 6 13 23 | | FEB | 1 16 34 | 2 5 25 |
| G, | FEB | 5 1 23 | 4 23 59 | 9 18 26 | MAR | 3 5 17 | 3 18 15 |
| 10 1 0 | MAR | 6 14 7 | 6 10 29 | | APRIL | ∫ 1 18 1 | 2 4 28 |
| | APRIL | 5 2 51 | 4 21 16 | | 0 | 16 12 23 | 16 10 48 |
| | MAY. | 4 15 35 | 4 8 55 | | MAY . | ∫ 1 6 45 | 1 12 35 |
| | JUNE. | ∫ 3 4 19 | 2 21 53 | | _ | ₹30 19 29 | 30 19 33 |
| | 0 | 17 22 41 | 18 8 57 | | JUNE. | 29 8 13 | 29 2 22 |
| | JULY. | 2 17 3 | 2 12 20 | | JULY. | 28 20 57 | 23 10 12 |
| | Aug | 1 5 47 | 1 3 52 | | Aug. | 27 9 41 | 26 20 5 |
| | 2100. | ₹30 18 31 | 30 19 53 | | SEPT | 25 22 25 | 25 8 50 |
| | SEPT | 29 7 15 | 29 11 37 | | 0 | ∫10 16 47 | 10 20 35 |
| | Oct | 28 19 59 | 29 2 31 | | Oct |)25 11 9 | 25 0 41 |
| | Nov | 27 8 43 | 27 16 16 | | Nov | 23 23 53 | 23 19 2 |
| | 0 | $\int 12 \ 3 \ 5$ | 11 17 47 | | DEC | 23 12 37 | 23 14 36 |
| | DEC | 126 21 27 | 27 4 44 | 1726. | JAN | 22 1 22 | 22 9 42 |
| 1723. | T | 07.40.40 | | в. | FEB | 20 14 6 | 21 2 46 |
| F. | JAN | 25 10 12 | 25 15 57 | 10 0 15 | MAR | 22 2 50 | 22 16 58 |
| 10 6 49 | FEB. | 23 22 56 | 24 1 57 | | 0 | (5 21 12 | 5 15 28 |
| , 10 0 43 | MAR. | 25 11 40 | 25 11 5 | | APRIL | 20 15 34 | 21 3 56 |
| | APRIL | 24 0 24 | 23 19 57 | | MAY . | 20 4 18 | 20 12 32 |
| | MAY. | 23 13 8 | 23 5 20 | | JUNE . | 18 17 2 | 18 19 37 |
| | JUNE. | 22 1 52 | 21 16 10 | | JULY. | 18 5 46 | 18 2 18 |
| | JULY. | 21 14 36 | 21 5 3 | | Aug | 16 18 30 | 16 9 41 |
| | Aug | 20 3 20 | 19 20 10 | | SEPT | (15 7 14 | 14 18 46 |
| | SEPT. | 18 16 4 | 18 12 59 | | 0 | 30 1 36 | 30 7 7 |
| | Ост | 18 4 48 | 18 6 36 | | Oct | 14 19 58 | 14 6 22 |
| | Nov | 16 17 32 | 16 23 54 | | Nov | 13 8 42 | 12 20 55 |
| | DEC | 16 6 16 | 16 15 52 | | DEC | 12 21 26 | 12 14 7 |
| | | 1 | | | | | |

| 1 | | | | | | | |
|----------------------------|--------|--|------------------------------------|----------------------------|--------|-------------------|-----------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
| A.D. 1727. | | d. h. m. | d. h. m. | A.D. 1730. | | d. h. m. | d. h. m. |
| March. | JAN | 11 10 11 | 11 9 3 | D. | JAN | r 8 1 20 | 7 20 55 |
| d. h. m. | FEB | 9 22 55 | 10 4 12 | | 0 | 22 19 42 | 28 6 18 |
| 10 6 4 | MAR | 11 11 39 | 11 21 59 | March. d. h. m. | FEB. | 6 14 4 | 6 8 38 |
| | APRIL | 10 0 23 | 10 13 16 | 9 23 30 | MAR. | 8 2 48 | 7 21 6 |
| | MAY . | 9 13 7 | 10 1 38 | l | APRIL | 6 15 32 | 6 10 28 |
| | JUNE . | 8 1 51 | 8 11 23 | | MAY. | 6 4 16 | 6 0 50 |
| | JULY . | 7 14 35 | 7 19 21 | | JUNE . | 4 17 0 | 4 15 59 |
| | Aug | 6 3 19 | 6 2 36 | | JULY. | (4 5 44 | 4 7 22 |
| | SEPT. | 4 16 3 | 4 10 15 | | 0 | 19 0 6 | 18 17 53 |
| | Oct | 4 4 47 | 8 19 11 | | Aug. | 2 18 28 | 2 22 22 |
| | Nov. | 2 17 31 | 2 6 2 | | A.06 | | |
| | 1.01. | (2 6 15 | 1 19 12 | | SEPT | 7 | 1 12 29 |
| | DEC | 31 18 59 | 81 10 40 | 1 | 0 | 100 20 | $\int_{0.0}^{1} 1.35$ |
| | | (OT TO 00 | 01 10 40 | | Oct | 80 8 40 | (30 13 47 |
| | | | | | Nov | 28 21 24 | 29 1 28 |
| 1728. | JAN | 80 7 48 | 30 3 53 | l l | DEC | 28 10 8 | 28 12 28 |
| G.F. | 0 | $\begin{cases} 14 & 2 & 5 \end{cases}$ | 14 9 44 | 1731. | JAN | 26 22 53 | 26 28 7 |
| | FEB | 128 20 27 | 28 21 53 | C. | FEB | 25 11 37 | 25 9 27 |
| 9 11 53 | MAR. | 29 9 11 | 29 15 28 | 10 5 19 | MAR. | 27 0 21 | 26 19 45 |
| | APRIL | 27 21 55 | 28 7 31 | | APRIL | 25 18 5 | 25 6 86 |
| | MAY. | 27 10 39 | 27 21 17 | | MAY . | 25 1 49 | 24. 18 87 |
| | June. | 25 28 28 | 26 8 48 | | 0 | (8 20 11 | 9 8 56 |
| | JULY. | 25 12 7 | 25 18 18 | | JUNE. | 28 14 88 | 28 8 12 |
| | 0 | ∫ 9 6 29 | 8 19 11 | | July. | 28 8 17 | 22 23 16 |
| | Aug | 124 0 51 | 24 2 54 | | Aug | 21 16 1 | 21 15 17 |
| | SEPT | 22 18 35 | 22 11 28 | | SEPT | 20 4 45 | 20 7 29 |
| | Ост | 22 2 19 | 21 20 48 | | Oct. | 19 17 29 | 19 28 10 |
| | Nov | 20 15 3 | 20 7 21 | | Nov. | 18 6 18 | 18 18 47 |
| | DEC | 20 8 47 | 19 19 22 | | 0 | (8 0 85 | 2 18 45 |
| | | | | | DEC | 17 18 57 | 18 8 4 |
| 1729. | JAN | 18 16 82 | 18 8 54 | | | | |
| E. | 0 | (2 10 54 | 2 28 19 | 1732. | JAN | 16 7 42 | 16 14 55 |
| | FEB | 17 5 16 | 16 23 48 | В.А. | Fen | 14 20 26 | 15 1 24 |
| 9 17 42 | MAR. | 18 18 0 | 18 15 44 | 9 11 8 | MAR | 15 9 10 | 15 10 45 |
| | APRIL | 17 6 44 | 17 8 6 | | APRIL | 18 21 54 | 18 19 24 |
| | MAY. | 16 19 28 | 17 0 8 | | MAY . | {18 10 8 8 | 13 4 12 |
| | JUNE . | 15 8 12 | 15 14 52 | | 0 | 128 5 0 | 28 16 20 |
| | JULY . | (14 20 56 | 15 4 22 | | June . | 11 28 22 | 11 14 1 |
| | | 29 15 18 | 29 3 14 | | July . | 11 12 6 | 11 1 48 |
| | AUG. | 13 9 40 | 13 16 6 | | Aug | 10 0 50 | 9 15 45 |
| | SEPT. | 11 22 24 | 12 2 43 | | SEPT | 8 18 84 | 8 7 57 |
| i | Ocr. | 11 11 8 | | | Oct | 8 2 18 | 8 1 29 |
| } | Nov. | | | | Nov | 6 15 2 | 6 19 19 |
| | | 9 28 52 9 12 86 | 9 28 5 9 9 44 | | 0 | 21 9 24 | 20 23 39 |
| | Dec | 3 12 56 | 0 9 44 | | DEC | 6 8 46 | 6 12 17 |
| | | | | <u> </u> | | | |

| | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|----------------------------|---------|------------------------------------|------------------------------------|----------------------------|-----------|---|----------------|
| | A.D. 1733. | | d. h. m. | d. h. m. | A.D. 1736. | | d. h. m. | d. h. m. |
| İ | G. | JAN | 4 16 30 | 5 3 28 | D.C. | | (2 7 40 | 2 3 28 |
| | March. $d. h. m.$ | FEB | 3 5 14 | 3 16 24 | | JAN | $\begin{cases} 2 & 100 \\ 31 & 20 & 24 \end{cases}$ | 31 22 34 |
| | 9 16 57 | MAR | 4 17 58 | 5 3 6 | | FEB | | |
| | | APRIL | 3 6 42 | 3 11 57 | March. | LED | | 1 17 3 |
| | | MAY . | ſ 2 19 26 | 2 19 37 | d. h. m. 9 10 23 | Mar. O | \\ 16 \ \text{3 30} | 16 2 28 |
| ĺ | | 0 | 17 13 48 | 17 21 25 | | MARIN. O | 30 21 52 | 31 9 36 |
| | | Tresses | f 1 8 10 | 1 2 59 | | APRIL | 29 10 36 | 29 23 23 |
| | | JUNE. | 180 20 54 | 30 11 7 | | MAY. | 28 23 20 | 29 10 21 |
| | | July. | 30 9 38 | 29 21 6 | | June . | 27 12 4 | 27 19 9 |
| | | Aug | 28 22 22 | 28 9 45 | | JULY. | 27 0 48 | 27 2 45 |
| ŀ | | SEPT | 27 11 6 | 27 1 17 | | Aug. | 25 13 32 | 25 10 14 |
| | | Ост | 26 23 50 | 26 19 12 | | 0 | (9 7 54 | 9 5 32 |
| | | 0 | ∫10 18 12 | 10 14 38 | | SEPT. | 24 2 16 | 23 18 36 |
| | | Nov | le 12 34 | 25 14 18 | | Ocr | 23 15 0 | 23 4 33 |
| 1 | | DEC | 25 1 18 | 25 9 2 | | Nov. | 22 3 44 | 21 16 36 |
| | | | | | | DEC. | 21 16 28 | 21 6 58 |
| | 1734. | JAN | 23 14 3 | 24 2 1 | 4202 | | | |
| | F. | FEB | 22 2 47 | 22 16 16 | 1737. B. | JAN | 20 5 18 | 19 28 9 |
| | 9 22 46 | MAR | 23 15 31 | 24 3 40 | ь. | FEB | 18 17 57 | 18 16 41 |
| | | APRIL | 22 4 15 | 22 12 36 | 0 10 11 | .0 | $\int 5 12 19$ | 5 18 50 |
| | | MAY . | 21 16 59 | 21 19 55 | 9 16 11 | MAR | 120 6 41 | 20 10 24 |
| | | JUNE. | 20 5 43 | 20 2 37 | | APRIL | 18 19 25 | 19 8 11 |
| | | July . | 19 18 27 | 19 9 47 | | MAY . | 18 8 9 | 18 18 5 |
| | | Aug | 18 7 11 | 17 18 84 | | JUNE . | 16 20 53 | 17 6 43 |
| | | SEPT | 16 19 55 | 16 5 53 | | JULY . | 16 9 97 | 16 17 17 |
| | | Oct | 16 8 39 | 15 20 16 | | Aug | ∫14 22 21 | 15 2 26 |
| | | Nov | 14 21 23 | 14 13 34 | | O Sept | 129 16 43 | 29 6 2 |
| | | DEC | 14 10 7 | 14 8 45 | | OCT. | 13 11 5 | 13 11 10 |
| | | | | | | 3. | 12 28 49 | 12 20 15 |
| | 1735. | JAN | 12 22 51 | 13 4 17 | | DEC. | 11 12 33 11 1 17 | 11 6 17 |
| | E. | FEB | 11 11 36 | 11 22 29 | | | 17 7 7 1 | 10 17 36 |
| 1 | 10 4 85 | MAR | (13 0 20 | 13 14 5 | 1738. | JAN | 9 14 1 | 9 6 16 |
| 1 | | 0 | 127 18 42 | 27 13 8 | | Гев | 8 2 45 | 7 20 16 |
| | 1 | APRIL | 11 13 4 | 12 2 33 | 9 22 0 | MAR | 9 15 30 | 9 11 28 |
| | | MAY. | 11 1 48 | 11 12 13 | | APRIL | 8 4 14 | 8 3 25 |
| | | June. | 9 14 32 | 9 19 55 | | MAY . | 7 16 58 | 7 19 82 |
| | | July. | 9 3 16 | 9 2 40 | | JUNE . | 6 5 42 | 6 11 1 |
| | | Aug | 7 16 0 | 7 9 39 | | JULY . | 5 18 26 | 6 1 16 |
| | | SEPT | ∫ 6 4 44 | 5 17 53 | | Aug | 4 7 10 | 4 13 58 |
| | | 0 | 120 23 6 | 21 3 43 | | SEPT. , | 2 19 54 | 3 1 19 |
| | | Oct | 5 17 28 | 5 4 16 | | Ocr | 2 8 38 | 2 11 58 |
| | | Nov | 4 6 12 | 3 17 23 | | | 31 21 22 | 31 22 16 |
| | | DEC | 3 18 56 | 3 9 19 | | Nov | 30 10 6 | 30 8 49 |
| | | | | | | DEC | 29 22 50 | 29 19 42 |

| ī | | | OERUSALEN | CIVIL TI | ALE) | | | |
|----------------------------|--------|---------------------------------|---------------------|-------------------|--------|-----------------------------------|-------------------|-----|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ec | True New Moon. | 37 | Month, | Mean New Moon. (O Full Ecl. | Trne New Moon. | |
| A.D. 1739. | | d. h. m | . d. h. m | A.D. 1742. | | d. h. m. | d. h. n | n. |
| G. | 0 | (13 17 19 | 2 14 1 28 | G. | T | | | . 1 |
| March. | JAN. | (28 11 8 | | March. | JAN. | 25 2 44 | 25 14 29 | _ 1 |
| 10 3 49 | | 27 0 18 | - | d. h. n 9 21 1 | 7. FEB | 23 15 28 25 4 12 | 24 2 1 | - 1 |
| | MAR | 28 13 2 | | | APRIL | 25 4 12 23 16 56 | 25 11 47 | - 1 |
| | APRIL | 27 1 46 | 1 | [] | | (811 18 | 23 19 46 8 17 | . 1 |
| | MAY. | 26 14 30 | 26 11 38 | 11 | MAY. | 23 5 40 | 8 17 8 | - 1 |
| | June . | 25 3 14 | 25 2 55 | 1 | JUNE . | 21 18 24 | 21 10 81 | - 1 |
| | 0 | 9 21 86 | 9 18 9 | | JULY. | 21 7 8 | 20 19 25 | |
| | July. | 24 15 58 | 24 18 16 | | Aug. | 19 19 52 | 19 6 40 | |
| | Aug | 23 4 42 | 23 9 5 | | SEPT. | 18 8 36 | 17 20 50 | 1 |
| | SEPT | 21 17 26 | 21 22 59 | | Oct. | 17, 21, 20 | 17 18 47 | - 1 |
| | Ocr | 21 6 10 | 21 11 55 | | 0 | (1 15 42 | 1 18 54 | - 1 |
| | Nov | 19 18 54 | 20 0 1 | | Nov. | 16 10 4 | 16 8 86 | |
| | DEC | 19 7 88 | 19 11 27 | | DEC | 15 22 48 | 16 8 51 | - 1 |
| | 0 | (820 | 8 0 58 | 1743. | JAN | 14 11 83 | 14 21 56 | . |
| 1740. | JAN | 17 20 22 | 17 22 16 | В. | FEB | 18 0 17 | 18 18 86 | - 1 |
| F.E. | FEB | 16 9 6 | 16 8 85 | 10 8 4 | MAR. | 14 18 1 | 15 2 19 | |
| 9 9 88 | MAR. | 16 21 51 | 16 18 37 | - | APRIL | (13 1 45 | 18 12 18 | |
| | APRIL | 15 10 85 | 15 4 51 | İ | 0 | 27 20 7 | 27 17 88 | |
| | MAY . | 14 23 19 | 14 15 57 | 1 | MAY. | 12 14 29 | 12 20 12 | |
| | JUNE. | 18 12 8 | 13 4 34 | | JUNE. | 11 8 18 | 11 8 0 | 1 |
| | 0 | 28 6 25 | 28 11 19 | | July. | 10 15 57 | 10 9 47 | |
| | JULY. | 18 0 47 | 12 18 50 | | Aug | 9 4 41 | 8 17 40 | |
| | Aug | 11 18 81 | 11 10 88 | | SEPT | 7 17 25 | 7 8 41 | |
| | SEPT | 10 2 15 | 10 2 58 | | Ост | 5 7 6 9 | 6 16 85 | |
| | Ocr. , | 9 14 59 | 9 19 16 | | 0 | 22 0 81 | 22 4 57 | |
| | Nov. | 8 8 48 | 8 10 45 | | Nov | 5 18 58 | 5 8 88 | |
| | DEC 5 | 7 16 27 | 8 0 55 | | DEC. | 5 7 87 | 5 8 1 | |
| | 0 | 22 10 49 | 22 2 5 | 1744. | JAN | 8 20 21 | 8 22 84 | |
| 1741. | JAN. | 6 5 11 | 6 10 0 | A.G. | FEB. | 295 | 2 17 85 | |
| D. | FEB. | 4 17 55 | 6 18 85 5 O 40 | 9 8 58 | MAR. | 2 21 49 | 8 10 80 | |
| 9 15 27 | MAR. | 6 6 40 | 6 10 28 | | | , 1 10 88 | 2 0 28 | |
| | APRIL | 4 19 24 | 4 19 8 | | APRILO | | 15 22 47 | |
| | MAY . | 4 8 8 | 4 8 29 | | , | (80 28 17 | 1 11 25 | 1 |
| | JUNE . | 2,20 52 | 2 12 29 | | MAY . | 80 12 1 3 | 80 19 56 | |
| | - (| 2 9 86 | 1 28 2 | | June. | 29 0 45 | 29 8 1 | |
| | JULY . | | 81 11 51 | | JULY. | | 28 9 51 | |
| | | | 80 8 4 | | Aug | | 26 17 26 | |
| | ~ | | 28 20 18 | | SEPT | | 25 2 46 | 1 |
| | - 1 | | 28 14 18 | | 0 | | 0 14 55 | |
| | Nov 2 | | 27 8 8 | l | Ocr | _ | 4 14 84 | |
| : | Dec 2 | 6 14 0 2 | 27 0 23 | | Nov. | | 8 5 8 | |
| | | | | | DEC | 28 5 9 2 | 2 22 15 | |
| | | | | | | B | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|---------------|------------------------------------|-----------------------|----------------------------|--------|------------------------------------|---|
| A.D. 1745. | | d. h. m. | d. h. m. | A.D. 1748. | | d. h. m. | d. h. m. |
| F. | JAN | 21 17 54 | 21 16 56 | C.B. | JAN | 19 9 4 | 19 5 48 |
| March. | _ | 20 6 38 | 20 11 45 | | 0 | (B B 26 | 8 14 19 |
| d. h. m. | FEB MAR | 21 19 22 | 22 5 18 | March. | FEB | 17 21 48 | 17 17 4 |
| 9 14 42 | | 20 8 6 | 20 20 25 | d. h. m. 9 8 9 | MAR. | 18 10 82 | 18 4 57 |
| 1 | APRIL MAY. | 19 20 50 | 20 8 45 | | APRIL | 16 28 16 | 16 17 48 |
| | | 18 9 34 | 18 18 34 | | May. | 16 12 0 | 16 7 84 |
| | JUNE. | 17 22 18 | 18 2 43 | | JUNE . | 15 0 44 | 14 22 28 |
| | JULY. | 16 11 2 | 16 10 19 | | July . | (14 18 28 | 14 18 58 |
| | Aug | 14 23 46 | 14 18 18 | | 0 | 29 7 50 | 29 1 25 |
| | SEPT | | 1 | | Aug. | 18 2 12 | 18 5 12 |
| | Oct | 14 12 30 | 14 3 33 12 14 37 | | SEPT. | 11 14 56 | 11 19 51 |
| | Nov | 13 1 14 | | | 1 | 11 8 40 | 11 9 85 |
| | DEC | 12 13 58 | 12 3 45 | | Oct. | 9 16 24 | 9 22 21 |
| | | | | | Nov. | | 9 10 15 |
| 1746. | JAN | 11 2 43 | 10 18 58 | | DEC | 9 5 8 | 5 10 25 |
| E. | FEB | 9 15 27 | 9 11 45 | 1749. | JAN | 7 17 58 | 7 21 25 |
| | 0 | 24 9 49 | 24 18 16 | A. | FEB | 6 6 87 | 6 7 52 |
| 9 20 31 | Mar | 11 4 11 | 11 5 16 | 9 13 57 | MAR | 7 19 21 | 7 17 47 |
| | APRIL | 9 16 55 | 9 22 27 | | APRIL | 685 | 6 8 88 |
| | MAY. | 9 5 39 | 9 14 17 | | MAY . | 5 20 49 | 5 18 52 |
| | JUNE. | 7 18 23 | 8 4 5 | | JUNE . | r 4 9 88 | 4 1 27 |
| | JULY. | 7 7 7 | 7 15 44 | | 0 | 19 8 55 | 19 11 15 |
| | Aug | 5 19 51 | 6 1 40 | | JULY . | 8 22 17 | 8 14 47 |
| | 0 | 20 14 18 | 20 2 12 | | ١. | (211 1 | 2 5 52 |
| | SEPT | 4 8 35 | 4 10 45 | | A.ug | 81 28 45 | 81 22 11 |
| | Oct | 3 21 19 | 3 19 47 | | SEPT | 80 12 29 | 80 14 58 |
| | Nov | 2 10 3 | 2 5 28 | | Oct | 80 1 18 | 80 7 9 |
| | DEC | f 1 22 47 | 1 16 12 | | Nov | 28 18 57 | 28 22 16 |
| | DEC | 31 11 31 | 31 4 8 | | 0 | (18 8 19 | 12 22 10 |
| | | | | | DEC | 128 2 41 | 28 11 50 |
| 1747. | JAN. | 30 0 15 | 29 17 18 | 1750. | | 26 15 25 | 26 28 42 |
| D. | 0 | (13 18 37 | 14 7 40 | G. | JAN | 25 4 9 | 25 9 56 |
| | FEB | 28 12 59 | 28 7 39 | 9 19 46 | FEB. | | 26 18 58 |
| 10 2 20 | MAR. | 30 1 43 | 29 22 59 | 9 19 40 | MAR | 26 16 58 | |
| | APRIL | 28 14 27 | 28 14 51 | | APRIL | 25 5 87 | |
| | MAY . | 28 3 11 | . 28 6 38 | | MAY . | 24 18 21 | |
| | JUNE . | 26 15 55 | 26 21 36 | | O | 8 12 48 | |
| | JULY . | 26 4 39 | 26 11 14 | | JUNE & | | |
| | 0 | 9 23 | 1 9 10 33 | Įį. | JULY . | 22 19 49 21 8 88 | 22 8 88 20 22 87 |
| | Aug. | . 24 17 2 | 3 24 23 47 | 1 | Aug | 19 21 17 | 19 15 1 |
| | SEPT. | . 23 6 7 | 7 23 10 38 | H | SEPT | 1 | 1 |
| | Ocr. | . 22 18 51 | 1 22 21 18 | 1 | Oct | | |
| | Nov. | | | 1 | Nov | 17 22 45 | i . |
| | Dec. | . 20 20 19 | 9 20 18 41 | 1 | DEC. | 17 11 29 | |
| | 1 | 1 | | H | 1 mu. | (A A 20) | 1 I I I I I I I I I I I I I I I I I I I |

| Mean Vernal Equino: | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|---------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|--------------------------|----------------|
| A.D. 1751. | | d. h. m. | d. h. m. | A.D. 1754 | | d. h, m. | |
| March | JAN | 16 0 14 | 16 11 59 | B. | JAN. | 12 15 24 | |
| d. h. | | 14 12 58 | 15 0 53 | March. | FEB. | 11 4 8 | 00 |
| 10 1 3 | | 16 1 42 | 16 11 21 | d. h. m. 9 19 2 | MAR. | (12 16 52 | |
| | APRIL | 14 14 26 | 14 19 53 | | 0 | 27 11 14 | |
| | MAY. | (14 8 10 | 14 3 12 | | APRIL | 1 | |
| | 0 | 28 21 32 | 29 4 2 | | MAY. | 10 18 20 | 11 16 45 |
| | JUNE . | 12 15 54 | 12 10 21 | | JUNE . | 1 | |
| | July. | 12 4 38 | 11 18 21 | | JULY . | 9 7 4 8 1 9 48 | 9 17 28 |
| | Aug | 10 17 22 | 10 4 19 | | Aug. | | 9 2 27 |
| | SEPT | 9 6 6 | 8 17 2 | | SEPT. | | 7 10 20 |
| | Ocr | 8 18 50 | 8 8 44 | | 0 | K | 5 18 12 |
| | Nov | 7 7 84 | 7 2 55 | | Oct. | | 20 12 39 |
| | 0 | 22 1 56 | 21 22 29 | | Nov. | 5 10 0 | 5 2 54 |
| | DEC | 6 20 18 | 6 22 17 | | Dec. | 3 22 44 3 11 28 | 8 13 7 |
| | | | | | DEC | 0 11 28 | 8 1 15 |
| 1752. | JAN | 5 9 3 | 5 17 11 | | | (2 0 12 | 1 15 22 |
| E.D. | FEB. | 8 21 47 | 4 10 11 | 1755. | Jan | 81 12 56 | 81 7 18 |
| 9 7 24 | | 4 10 81 | | A. | FEB | | 27 , 19 |
| | APRIL | 2 28 15 | 5 0 20 8 11 32 | | | 2 1 40 | 2 0 14 |
| | MAY. | 2 11 59 | 2 20 17 | 10 0 50 | MAR. O | 16 20 2 | 17 8 7 |
| | | (1 0 48 | 1 8 25 | | | 81 14 24 | 81 17 28 |
| | JUNE. | 80 13 27 | 30 10 2 | | APRIL | 30 3 8 | 30 9 58 |
| | JULY . | 80 2 11 | 29 17 16 | | MAY. | 29 15 52 | 30 0 47 |
| | Aug. | 28 14 55 | 28 2 10 | i | June . | 28 4 36 | 28 13 84 |
| | SEPT. | 27 8 89 | 26 13 38 | | JULY . | 27 17 20 | 28 0 29 |
| | Oct. | 26 16 28 | 26 4 10 | | Aug., | 26 6 4 | 26 10 6 |
| 1 | Nov. | 25 5 7 | 24 21 88 | | 0 | (10 0 26 | 9 18 9 |
| | DEC. | 24 17 51 | 24 16 44 | | SEPT. | 24 18 48 | 24 19 18 |
| } | | | | | Ocr | 24 7 82 | 24 4 46 |
| 1753. | JAN. | 00 6 01 | 00 10 11 | | Nov. | 22 20 16 | 22 15 5 |
| c. | FEB. | | 28 12 11 22 6 14 | | DEC | 22 9 0 | 22 2 26 |
| 9 13 13 | MAR. | | | | | | |
| 0 10 10 | | 7 2 25 | 28 21 89 | 1756. | JAN. | 20 21 45 | 20 14 52 |
| | APRIL | | 6 20 46 22 10 0 | G.F. | FEB. | 19 10 29 | 19 4 28 |
| | MAY . | 1. | - 11 | 9 6 99 | MAR. | 19 28 18 | 19 18 56 |
| | June . | | 21 19 85 20 8 17 | 1 | APRIL | 18 11 57 | 18 10 20 |
| | JULY . | | | | MAY. | 18 0 41 | 18,26 |
| | Aug. | 1 | 19 10 10 | 1 | JUNE . | 16 18 25 | 16 17 80 |
| | SEPT. | | 17 17 22 16 1 51 | I . | JULY. | 16 2 9 | 16 7 56 |
| | | 1 6 49 | | 1 | Aug | 14 14 58 | 14 21 5 |
| | 1 - 12 | | 1 11 15 | 1 | SEPT | 18 8 87 | 18 9 1 |
| | | | 15 12 27 | | Oct | 12 16 21 | 12 20 9 |
| | | | | | Nov | 11 5 5 | 11 6 58 |
| | 2.00. | A 4 00 . | 18 17 84 | : | DEC | 10 17 49 | 10 17 45 |
| | | <u> </u> | | | | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|---------------------------------------|--|--|--|----------------------------|--|---|--|
| A.D. 1757. E. March. d. h. m. 9 12 28 | JAN O FEB MAR MAY JUNE . JULY . O AUG SEPT OCT Nov | d. h. m. { 9 6 34 24 0 56 7 19 18 9 8 2 7 20 46 7 9 30 5 22 14 { 5 10 58 20 5 20 3 23 42 2 12 26 { 2 1 10 31 13 54 30 2 38 29 15 22 | d. h. m. 9 4 39 24 9 27 7 15 39 9 2 57 7 14 57 7 3 57 5 18 11 5 9 21 20 1 40 4 0 56 2 16 13 2 6 43 31 20 15 30 8 47 29 20 24 | | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 6 21 44 5 10 28 5 23 12 4 11 56 4 0 40 (18 19 2 2 13 24 { 2 2 8 31 14 52 30 3 36 28 16 20 28 5 4 { 11 28 26 26 17 48 26 6 32 | d. h. m. 7 8 49 5 22 59 6 10 32 4 19 48 4 3 28 18 23 41 2 10 28 1 17 49 81 2 39 29 13 58 28 4 17 27 21 26 11 22 40 26 16 30 26 11 54 |
| 1758. p. 9 18 17 | O JAN FEB MAR APRIL MAY*. JUNE . O JULY . AUG SEPT OCT NOV DEC | 22 21 14 21 9 58 20 22 42 | 13 8 49 28 7 8 26 17 5 28 2 37 26 12 18 25 22 57 24 11 12 9 18 42 24 .1 25 22 17 18 21 10 8 21 3 0 19 19 2 19 9 35 | 1761. g. 9 11 43 | JAN FEB MAR AFRIL O MAY JUNE . JULY . AUG SEPT OCT O NOV DEC | 24 19 16 28 8 0 24 20 44 28 9 28 8 8 50 22 22 12 21 10 56 20 28 40 19 12 24 18 1 8 17 18 52 1 8 14 16 2 36 15 15 20 | 25 6 2 28 21 38 25 10 18 28 19 59 8 0 23 28 3 43 21 10 26 20 17 15 19 1 14 17 11 25 17 0 29 1 18 24 15 16 32 15 10 59 |
| 1759. c. 10 0 6 | JAN. FEB. | 2 18 32 17 12 55 16 1 39 17 14 28 16 3 7 15 15 51 14 4 35 13 17 19 12 6 3 10 18 47 10 7 31 | 2 10 22 17 22 22 16 9 18 17 18 41 16 2 57 15 10 56 13 19 37 13 5 57 11 18 43 10 10 6 10 3 35 8 22 5 | | JAN. FEB. MAR. APRIL O MAY JUNE JULY AUG. SEPT. OCT. O NOV. DEC. | 14 5 38 \$\(\) 12 18 17 \$\(\) (27 12 39 \$\(\) 12 7 1 \$\(\) 10 19 45 \$\(\) 10 8 29 \$\(\) 8 21 18 | 27 6 5 12 18 46 11 3 17 10 10 29 8 17 30 7 1 21 6 10 56 3 21 22 50 6 4 22 54 |

| Mean Vernal Equinox. | Month. | | True New Moon.)(O Full Ecl.) | Mean Vernal Equinox. | Month. | | True New Moon. |
|----------------------------|---------|---------------------|-------------------------------|----------------------------|--------|-----------|-------------------|
| A.D. 1763. | | d. h. m. | d. h. m. | A.D. 1766. | | d. h. m. | d. h. m. |
| March. | JAN | 3 12 54 | 3 6 25 | A- | JAN. | 29 16 48 | 29 14 30 |
| d. h. m. | FEB | 2 1 38 | 2 0 46 | | 0 | (13 11 10 | 13 22 12 |
| 9 23 21 | MAR | 3 14 22 | 3 19 14 | d. $h.$ $m.$ | FEB | 28 5 82 | 28 1 23 |
| | APRIL | 2 3 6 | 2 12 27 | 9 16 48 | MAR. | 29 18 16 | 29 12 41 |
| | MAY. | § 1 15 50 | 2 3 26 | | APRIL | 28 7 0 | 28 0 51 |
| | | (81 4 84 | 31 15 47 | | MAY . | 27 19 44 | 27 14 15 |
| | June . | 29 17 18 | 30 1 45 | | JUNE . | 26 8 28 | 26 4 55 |
| | Juny. | 29 6 2 | 29 10 12 | | JULY. | 25 21 12 | 25 20 25 |
| | Aug | 27 18 46 | 27 18 8 | | 0 | (9 15 84 | 9 9 8 |
| | SEPT | 26 7 80 | 26 2 31 | | AUG | 24 9 56 | 24 12 6 |
| | Ocr | 25 20 14 | 25 12 4 | | SEPT | 22 22 40 | 28 8 20 |
| | Nov | 24 8 58 | 28 23 17 | | Ост | 22 11 24 | 22 17 40 |
| | DEC | 28 21 42 | 23 12 22 | | Nov | 21 0 8 | 21 6 57 |
| 1764. | - | 00 70 00 | 00 01. | | DEC | 20 12 52 | 20 19 10 |
| D.C. | JAN | 22 10 26 20 28 10 | 22 8 14 | | | | |
| | FEB. | ł | 20 19 31 | 1767. | JAN | 19 1 36 | 19 6 19 |
| 9 5 10 | 0 | 6 17 82 | 7 2 38 | G. | Frb | 17 14 20 | 17 16 80 |
| 9 5 10 | MAR. | 20 0 88 | 21 12 30 | 9 22 86 | MAR | 19 3 4 | 19 1 58 |
| | APRIL | 20 0 88 19 18 22 | 20 5 17 | | APRIL | 17 15 48 | 17 11 18 |
| | MAY . | 18 2 6 | 19 20 57 | | MAY. | 17 4 82 | 16 21 2 |
| | JUNE . | 17 14 50 | 18 10 50 | | June . | 15 17 16 | 15 8 14 |
| | JULY. | (16 8 84 | 17 22 45 | | JULY. | 15 6 0 | 14 21 24 |
| 1 | Avg | 80 21 56 | 16 9 7 30 9 19 | | Aug | 18 18 44 | 18 12 82 |
| | SEPT. | 14 16 18 | 14 18 41 | | SEPT | 12 7 28 | 12 5 10 |
| | OCT. | 14 5 2 | 14 4 11 | | Ocr | 11 20 12 | 11 22 24 |
| | Nov. | 12 17 46 | 12 14 14 | | Nov | 10 8 56 | 10 15 18 |
| | DEC. | 12 6 30 | 12 1 5 | | DEC | 9 21 40 | 10 6 46 |
| | D. 100. | . == 0 00 | 12 1 0 | | 0 | 24 16 2 | 24 6 86 |
| 1765. | JAN | 10 19 15 | 10 12 54 | 1768. | JAN. | 8 10 25 | 200.02 |
| в. | FEB | 9 7 59 | 9 1 89 | F.E. | FEB | 6 28 9 | 8 20 85 7 8 28 |
| | 0 | 24 2 21 | 24 15 52 | 9 4 25 | MAR. | 7 11 53 | 7 18 21 |
| 9 10 59 | MAR | 10 20 48 | 10 15 24 | | APRIL | 6 0 87 | 6 2 54 |
| | APRIL | 9 - 9 27 | 9 6 8 | | MAY. | 5 18 21 | 5 10 44 |
| | MAY. | 8 22 11 | 8 21 88 | 1 | JUNE . | (4 2 5 | 8 18 45 |
| | JUNE. | 7 10 55 | 7 18 6 | | 0 | 18 20 27 | 19 6 11 |
| | JULY. | 6 28 39 | 7 4 10 | | JULY. | 8 14 49 | 8 4 2 |
| | Aug | 5 12 28 | 5 18 9 | | | (2 8 88 | 1 15 29 |
| | 0 | 20 6 45 | 19 18 2 | | Aug | 81 16 17 | 81 5 87 |
| | Sept | 4 1 7 | 4 6 56 | | SEPT | 80 5 1 | 29 22 18 |
| | Ocr | 8 18 51 | 8 18 48 | | Ocr | 29 17 45 | 29 16 88 |
| | Nov | 2 2 35 | 2 5 58 | | Nov. | 28 6 29 | 28 11 19 |
| | Dec | § 1 15 19 | 1 16 49 | 1 | 0 | (18 0 51 | 12 17 14 |
| | DEC. | (81 4 8 | 81 8 40 | 1 | DEC | 27 19 18 | 28 4 56 |
| | | | ii. | 1 | - | | |
| | | | | | | 1 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox, | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1769. | | d. h. m. | d. h. m. | A.D. 1772. | | d. h. m. | d. h. m. |
| March. | JAN | 26 7 58 | 26 20 25 | A.G. | JAN | 23 23 8 | 23 19 28 |
| d. h. m. | FEB | 24 20 42 | 25 9 13 | d. h . m . | FEB | 22 11 52 | 22 13 50 |
| 9 10 14 | MAR | 26 9 26 | 26 19 27 | 9 3 41 | MAR. | 23 0 35 | 23 7 39 |
| | APRIL | 24 22 10 | 25 4 10 | | 0 | 6 18 57 | 6 18 32 |
| | MAY . | 24 10 54 | 24 10 45 | | APRIL | 121 13 19 | 21 23 45 |
| 3 | 0 | 18 5 16 | 8 10 33 | | MAY. | 21 2 3 | 21 13 22 |
| | JUNE . | 122 23 38 | 22 17 43 | | June . | 19 14 47 | 20 0 31 |
| | JULY. | 22 12 22 | 21 23 39 | | JULY. | 19 3 31 | 19 9 45 |
| | Aug | 21 1 6 | 20 11 38 | | Aug. | 17 16 15 | 17 18 0 |
| 1.0 | SEPT | 19 13 50 | 19 0 29 | | SEPT. | (16 4 59 | 16 2 15 |
| | Oct | 19 2 34 | 18 16 23 | | 0 | 30 23 21 | 30 19 54 |
| | Nov | 17 15 18 | 17 10 44 | | Ост. | 15 17 43 | 15 11 19 |
| i | 0 | ſ 2 9 40 | 2 8 25 | | Nov. | 14 6 27 | 13 21 48 |
| | DEC | 17 4 2 | 17 6 16 | | DEC | 13 19 11 | 13 21 48 |
| ľ | | | 2. 0 20 | | DEC | 10 10 11 | 19 9 91 |
| 1770. | JAN | 15 16 46 | 10 7 7 | 1773. | JAN | 12 7 56 | 11 23 49 |
| c. | FEB. | | 16 1 15 | F. | FEB | 10 20 40 | 10 15 13 |
| 9 16 3 | MAR. | 14 5 30 15 18 14 | 14 18 12 | 9 9 29 | MAR. | (12 9 24 | 12 7 40 |
| 0 10 0 | APRIL | | 16 8 13 | | 0 | 27 3 46 | 27 11 14 |
| | MAY. | 14 6 58 13 19 42 | 14 19 15 | | APRIL | 10 22 8 | 11 0 27 |
| | JUNE. | | 14 3 48 | | MAY. | 10 10 52 | 10 16 38 |
| | JULY. | | 12 10 52 | | JUNE. | 8 23 36 | 9 7 26 |
| | } . | 11 21 10 10 9 54 | 11 17 30 | | JULY. | 8 12 20 | 8 20 27 |
| | AUG | | 10 0 50 | | Aug. | 7 1 4 | 7 7 44 |
| | SEPT | 8 22 38 8 11 22 | 8 9 53 | | SEPT | (51348 | 5 17 51 |
| | Nov. | | 7 21 32 | | 0 | 20 8 10 | 19 20 28 |
| | DEC. | | 6 12 12 | | Oct | 5 2 32 | 5 3 33 |
| | DEC | 6 12 50 | 6 5 35 | | Nov. | 3 15 16 | 3 13 29 |
| | _ | i | | | DEC. | 3 4 0 | 3 0 1 |
| 1771. B. | JAN | 5 1 35 | 5 0 42 | | 220 | 0 * 0 | 3 0 1 |
| | FEB | 3 14 19 | 3 19 59 | 1774. | т | ſ 1 16 45 | 1 11 19 |
| 9 21 52 | MAR. | 5 3 3 | 5 13 50 | E. | JAN | la 5 29 | 80 23 25 |
| | APRIL | 3 15 47 | 4 5 6 | | FEB | | |
| | 0 | 18 10 9 | 18 4 19 | 9 15 18 | 3.6 | (1 18 13 | 1 12 23 |
| | MAY. | 3 4 31 | 3 17 20 | 9 13 16 | MAR | 131 6 57 | 31 2 20 |
| | June . | 1 17 15 | 2 2 54 | | APRIL | 29 19 41 | 29 17 11 |
| | JULY. | 1 5 59 | 1 10 40 | | MAY . | 29 8 25 | 29 8 37 |
| | | 30 18 43 | 30 17 45 | | JUNE . | 27 21 9 | 27 23 59 |
| | A.UG. | 29 7 27 | 29 1 12 | | JULY. | 27 9 53 | 27 14 41 |
| | SEPT | 27 20 11 | 27 9 57 | | Aug | 25 22 37 | 26 4 18 |
| | 0 | 12 14 33 | 12 18 56 | | SEPT | 24 11 21 | 24 16 51 |
| | Oct | 27 8 56 | 26 20 48 | | Ост | 24 0 5 | 24 4 83 |
| | Nov | 25 21 40 | 25 10 7 | | Nov | 22 12 49 | 22 15 46 |
| | DEC | 25 10 24 | 25 1 51 | | DEC | 22 1 33 | 22 2 45 |
| | I | 1 | U | 1 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|------------------------------|--------------------------------|---|---|-------------------------------|------------------------------|---|---|
| A.D. 1775. D. | Jan | d. h. m. 20 14 17 | d. h. m. 20 13 30 | A.D. 1778. G. March. | Jan | d. h. m. 17 5 26 | d. h. m. |
| March. d. h. m. 9 21 7 | O FEB MAR APRIL | 4 8 39 19 3 1 20 15 45 19 4 29 18 17 13 | 4 17 19 19 0 8 20 10 54 18 22 17 18 10 47 | d. h. m. 9 14 34 | FEB MAR APRIL MAY . JUNE . | 15 18 10 17 6 55 15 19 89 15 8 23 13 21 7 | 16 7 16 17 18 40 16 8 89 15 11 5 18 17 53 |
| | JUNE . JULY . O AUG SEPT | 17 5 57 16 18 41 31 13 3 15 7 25 13 20 9 | 17 0 41 16 15 49 81 9 14 15 7 88 18 28 26 | | JULY . AUG SEPT OCT Nov | 18 9 51 11 22 85 10 11 19 10 0 8 (8 12 47 | 18 1 9 11 10 1 9 21 24 9 11 52 8 5 18 |
| 1776. | Nov DEC JAN | 18 8 58 11 21 87 11 10 21 (9 28 6 | 13 14 83 12 4 89 11 17 84 10 5 19 | 1779. | O DEC | 23 7 9 8 1 31 6 14 15 | 23 7 80 8 0 24 6 19 55 |
| 9 2 56 | FEB MAR APRIL | 24 17 28 8 11 50 9 0 81 7 18 18 | 24 16 41 8 15 58 9 1 27 7 10 29 | 9 20 22 | FEB MAR APRIL MAY . | 5 2 59 6 15 44 5 4 28 4 17 12 19 11 84 | 5 14 1 7 5 88 5 17 57 5 8 84 |
| * | MAY . JUNE . JULY . O AUG SEPT | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6 19 41 5 5 55 4 17 55 20 4 8 8 8 5 2 0 11 | | JUNE . JULY . AUG SEPT | 19 11 84 3 5 56 2 18 40 1 7 24 80 20 8 29 8 52 | 19 7 7 8 11 11 2 17 55 1 0 48 80 8 57 28 19 20 |
| | Oct Nov Dec | $ \begin{cases} 1 & 17 & 42 \\ 81 & 6 & 26 \\ 29 & 19 & 10 \\ 29 & 7 & 54 \end{cases} $ | 1 17 27 81 10 52 80 8 28 29 18 14 | 1700 | OCT O Nov DEC | 28 21 86 (12 15 58 (27 10 20 26 28 4 | 28 8 82 12 21 58 27 0 89 26 19 2 |
| 1777. A. 9 8 45 | O JAN FEB MAR APRIL | 18 2 16 27 20 88 26 9 22 27 22 6 26 10 50 | 12 18 41 28 7 2 26 17 47 28 2 48 26 10 48 | 1780. E.D. 9 2 11 | JAN FEB MAR APRIL | 25 11 49 24 0 88 24 18 17 28 2 1 5 7 20 28 | 25 14 20 24 9 0 25 1 88 28 15 18 7 18 20 |
| | Aug | 25 28 84 24 12 18 9 6 40 24 1 2 22 18 46 | 25 18 20 24 2 48 9 15 10 28 12 56 22 1 48 | | May . June . July . Aug Sept | 22 14 45 21 8 29 20 16 18 19 4 57 17 17 41 | 28 2 2 21 10 87 20 17 59 19 1 14 17 9 24 |
| | SEPT OCT Nov DEC | 21 2 80 20 15 14 19 8 58 18 16 42 | 20 17 17 20 11 5 19 5 57 19 0 25 | | OCT O Nov DEC | 17 6 25 1 0 47 15 19 9 15 7 53 | 16 19 16 1 6 51 15 7 28 14 21 54 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|---|------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| A.D. 1781. | | d. h. m. | d. h. m. | A.D. 1784. | | d. h. m. | d. h. m. |
| c. | Jan | 13 20 37 | 13 14 33 | G.F. | JAN | 11 11 47 | 11 12 88 |
| March. | FEB. | 12 9 21 | 12 8 29 | | FEB | (10 0 81 | 9 28 9 |
| 9 8 0 | MAR. | 13 22 5 | 14 2 33 | March. | 0 | 121 18 58 | 25 5 56 |
| | APRIL | 12 10 49 | 12 19 28 | d. h. m. 9 1 27 | MAR | 10 18 15 | 10 9 83 |
| | MAY. | 11 23 33 | 12 10 19 | | APRIL | 9 1 59 | 8 20 16 |
| | June. | 10 12 17 | 10 22 43 | | MAY . | 8 14 48 | 8 7 58 |
| | JULY. | 10 1 1 | 10 8 55 | | JUNE. | 7 3 27 | 6 20 54 |
| | Aug | 8 13 45 | 8 17 42 | | July. | 6 16 11 | 6 11 28 |
| | SEPT. | 7 2 29 | 7 2 3 | | Aug | (5 4 55 | 5 3 1 |
| | Ост | 6 15 13 | 6 10 50 | | 0 | 19 28 17 | 19 16 46 |
| | Nov. | 5 3 57 | 4 20 43 | | SEPT | 8 17 89 | 8 19 6 |
| | DEC. | 4 16 41 | 4 8 3 | | Ocr | 3 6 23 | 8 10 54 |
| | | | | | | 1 19 7 | 2 1 51 |
| 1782. | Jan | 3 5 25 | 2 20 59 | | Nov | (1 7 51 | 1 15 86 |
| B. | FEB | 1 18 9 | 1 11 27 | | DEC | 80 20 85 | 81 4 2 |
| 9 13 49 | MAR. | 3 6 54 | 3 3 11 | | | (00 _0 , | |
| 0 10 40 | 0 | 18 1 16 | 18 10 51 | 1785. | JAN | 29 9 19 | 29 15 6 |
| | APRIL | 1 19 38 | 1 19 37 | E. | FEB | 27 22 4 | 28 1 0 |
| | TAT ILL | (1 8 22 | 1 12 1 | 9 7 15 | MAR. | 29 10 48 | 29 10 2 |
| | MAY. | 30 21 6 | 31 3 31 | | APRIL | 27 23 82 | 27 18 49 |
| | JUNE . | 29 9 50 | 29 17 31 | | MAY . | 27 12 16 | 27 4 11 |
| | JULY. | 28 22 34 | 29 5 48 | 1 | June . | 26 1 0 | 25 15 4 |
| | Aug | 27 11 18 | 27 16 40 | | July . | 25 13 44 | 25 4 6 |
| | 0 | (11 5 40 | 10 16 38 | | Aug | 24 2 28 | 28 19 21 |
| | SEPT | 26 0 2 | 26 2 46 | | SEPT | 22 15 12 | 22 12 19 |
| | Ост | 25 12 46 | 25 12 45 | | Oct | 22 3 56 | 22 6 8 |
| | Nov | 24 1 30 | 23 23 6 | | Nov | 20 16 40 | 20 28 22 |
| | DEC | 23 14 14 | 23 10 3 | | DEC | 20 5 24 | 20 15 19 |
| 1783. | T | 00 0 70 | 24 24 25 | | 0 | 8 28 46 | 8 15 4 |
| A. | JAN FEB | 22 2 59 | 21 21 37 | 1786. | JAN | 18 18 8 | 19 5 18 |
| 1 | 1 | 20 15 43 | 20 9 53 | D. | FEB | 17 6 52 | 17 16 55 |
| 9 19 38 | MAR. | $\begin{cases} 7 & 10 & 5 \\ 22 & 4 & 26 \end{cases}$ | 7 23 55 | 9 13 4 | MAR | 18 19 86 | 19 2 85 |
| 1 23 00 | APRIL | 20 17 10 | 21 23 2 | | APRIL | 17 8 20 | 17 10 47 |
| | MAY. | 20 5 54 | 20 13 9 | | MAY . | 16 21 4 | 16 18 16 |
| | JUNE . | 18 18 38 | | | JUNE. | 15 9 48 | 15 2 1 |
| | JULY . | 18 7 22 | 18 19 32 | | 0 | 130 4 10 | 80 18 8 |
| | Aug. | (16 20 6 | 18 10 43 17 1 8 | | JULY. | 14 22 32 | 14 11 7 |
| | 0 | 31 14 28 | 31 1 37 | | Aug | 13 11 16 | 12 22 81 |
| | SEPT | 15 8 50 | 15 14 28 | | SEPT | 12 0 0 | 11 12 46 |
| | Oct. | 14 21 34 | 15 2 51 | | Oct | 11 12 44 | 11 5 41 |
| | Nov | 13 10 18 | 13 14 32 | | Nov. | 10 1 28 | 10 0 21 |
| 1. | DEC | 12 23 2 | 13 1 45 | | Duc | 9 14 12 | 9 19 21 |
| | | | T T | | 0. | 24 8 84 | 24 2 4 |
| | - | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|--|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1787. | | d. h. m. | d. h. m. | A.D. 1790. | | d. h. m. | d. h. m. |
| C. | JAN | 8 2 57 | 8 13 12 | F. | Jan | 4 18 7 | 4 10 10 |
| March. | FEB | 6 15 41 | 7 4 43 | March. | FEB. | 8 6 51 | 3 3 22 |
| d. h. m. 9 18 53 | Mar. | 8 4 25 | 8 17 22 | d. h. m. 9 12 20 | MAR. | 4 19 35 | 4 21 17 |
| 0 10 00 | APRIL | 6 17 9 | 7 3 22 | 0 12 20 | APRIL | (3 8 19 | 3 14 45 |
| | MAY. | 6 5 58 | 6 11 21 | | O | 18 2 41 | |
| 0.71 | June . | (4 18 37 | 4 18 14 | | MAY. | | |
| | | 12 | 19 17 1 | | MAY. | 1 | 8 6 37 |
| | -0 | 19 12 59 | | | June . | 1 9 47 | 1 20 14 |
| | JULY. | 4 7 21 | 4 1 5 | | _ | (30 22 31 | 5 1 7 34 |
| | Aug | 2 20 5 | $ \left\{ \begin{array}{cccc} 2 & 9 & 1 \\ 81 & 19 & 5 \end{array} \right. $ | | JULY. | 80 11 15 | 130 17 7 |
| 1 | SEPT | § 1 '8 49 | 1 | | Aug., | 28 23 59 | 29 1 46 |
| | | (30 21 33 | 30 8 5 | | SEPT | 27 12 43 | 27 10 28 |
| | Ост | 30 10 17 | 30 0 8 | | 0 | ∫12 7 5 | 12 3 18 |
| 411 | Nov | 28 23 1 | 28 18 38 | | Ocr | 27 1 27 | 26 19 55 |
| | 0 | (13 17 23 | 13 17 22 | | Nov | 25 14 11 | 25 6 36 |
| | DEC | 28 11 45 | 28 14 13 | | DEC | 25 2 55 | 24 18 42 |
| | | | | | | | |
| 1788. | JAN | 27 0 30 | 27 9 13 | 1791. | JAN | 23 15 40 | 23 8 15 |
| B.A. | | | | E. | | | |
| 1 | FEB | 25 13 14 | 26 2 5 | | FEB | 22 4 24 | 21 23 8 |
| 9 0 42 | MAR | 26 1 58 | 26 15 58 | 9 18 8 | MAR | 28 17 8 | 23 15 0 |
| | APRIL | 24 14 42 | 25 2 50 | | . 0 | 7 11 30 | 7 19 15 |
| | MAY. | 24 8 26 | 24 11 17 | | APRIL | 22 5 52 | 22 7 18 |
| | JUNE . | 22 16 10 | 22 18 19 | | MAY . | 21 18 36 | 21 23 13 |
| | JULY. | 22 4 54 | 22 1 1 | | JUNE. | 20 7 20 | 20 14 2 |
| | Aug | 20 17 88 | 20 8 81 | ļ | JULY. | 19 20 4 | 20 8 19 |
| | SEPT | 19 6 22 | 18 17 47 | | Arc | 18 8 48 | 18 15 4 |
| | Oct | 18 19 6 | 18 5 87 | ĺ | SEPT | 16 21 32 | 17 1 44 |
| | Nov | 17 7 50 | 16 20 21 | [| 0 | (1 15 54 | 1 3 55 |
| | DEC. | 16 20 84 | 16 18 41 | | Ocr | 16 10 16 | 16 11 57 |
| ļ | | | | | Nov | 14 28 0 | 14 22 16 |
| 1789. | 7 | 15 9 18 | 15 8 37 | | DEC. | 14 11 44 | 14 8 59 |
| G. | JAN | | 1 | | | 1 | 1 25 35 37 |
| 1 | FEB | 18 22 2 | 14 8 89 | 1700 | JAN. | 18 0 28 | 12 20 9 |
| 9 6 81 | MAR | 15 10 46 | 15 21 16 | 1792. | 1 | | 10. 4 20.0 |
| | APRIL | 18 28 80 | 14 12 22 | | FEB | 11 13 12 | 11 7 52 |
| | 0 | 28 17 52 | 28 11 45 | 8 28 57 | MAR. | 12 1 56 | 11 20 16 |
| | MAY . | 13 12 14 | 14 0 82 | | APRIL | 10 14 40 | 10 9 35 |
| | June . | 12 0 58 | 12 10 9 | 1 | MAY . | 10 8 24 | 9 23 56 |
| | July . | 11 13 42 | 11 18 8 | | JUNE . | 8 16 8 | 8 15 3 |
| | Aug | 10 2 26 | 10 1 28 | | July . | 8 4 52 | 8 6 27 |
| | SEPT | 8 15 10 | 8 9 8 | | Aug | 6 17 36 | 6 21 28 |
| | Ocr | (8 8 54 | 7 18 14 | | SEPT | 5 6 20 | 5, 11, 36 |
| | 0 | 22 22 16 | 28 2 42 | | Oor | 4 19 4 | 5 0 46 |
| | Nov | 6 16 88 | 6 5 16 | 4 | Nov | 8 7 48 | 8 18 2 |
| | DEC | 6 5 22 | 5 18 85 | | DEC | 2 20 82 | 9 0 38 |
| | , | | 1 | | | 1 | |
| 1 | | 1 | 1 | 1 | | AL DEPOSIT | Mindelija inskrija (|

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.)(| True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|---------------------|----------------------------|--------|-------------------------------------|------------------------------------|
| A.D. 1793. | | d. h. m. | d. h. m. | A.D. 1796. | | d. h. m. | d. h. m. |
| в. | - | (1 9 17 | 1 11 43 | F.E. | JAN | 28 13 11 | 29 1 25 |
| | JAN | {30 22 1 | 30 22 18 | March. $d. h. m.$ | FEB | 27 1 55 | 27 15 29 |
| March. | Feb. 0 | 14 16 28 | 15 1 5 | 8 23 13 | Mar | 27 14 39 | 28 2 42 |
| d. h. m. 9 5 46 | Min | § 1 10 45 | 1 8 32 | | APRIL | 26 3 23 | 26 11 25 |
| 9 5 46 | MAR | (30 23 29 | 30 18 46 | | MAY . | 25 16 7 | 25 18 38 |
| | APRIL | 29 12 13 | 29 5 44 | | June. | 24 4 51 | 24 1 18 |
| | MAY . | 29 0 57 | 28 17 35 | | July. | 23 17 35 | 23 8 33 |
| | June. | 27 13 41 | 27 7 14 | | Aug. | 22 6 19 | 21 17 30 |
| | JULY. | 27 2 25 | 26 22 22 | | SEPT | 20 19 3 | 20 5 2 |
| | 0 | [10 20 47 | 10 16 53 | | Ост. | 20 7 47 | 19 19 38 |
| | Aug | 25 15 9 | 25 14 29 | | Nov | 18 20 31 | 18 13 7 |
| | SEPT | 24 3 53 | 24 6 47 | | 20 | 3 14 53 | 3 16 25 |
| | Oct | 23 16 37 | 23 22 30 | | DEC | (18 9 15 | 18 8 28 |
| | Nov | 22 5 21 | 22 13 7 | 1797. | JAN | 16 22 0 | 17 3 53 |
| | DEC | 21 18 5 | 22 2 22 | D. | FEB. | 15 10 44 | 15 21 55 |
| 1794. | JAN | 20 6 50 | 20 14 9 | 9 5 1 | MAR. | 16 23 28 | 17 18 16 |
| Δ. | _ 0 | § 4 1 12 | 4 0 32 | | APRIL | 15 12 12 | 16 1 82 |
| 0 44 05 | FEB | (18 19 34 | 19 0 31 | | MAY. | (15 0 56 | 15 11 2 |
| 9 11 35 | MAR | 20 8 18 | 20 9 43 | | 0 | 29 19 18 | 29 13 46 |
| | APRIL | 18 21 2 | 18 18 17 | | JUNE . | 13 13 40 | 13 18 87 |
| | MAY . | 18 9 46 16 22 30 | 18 3 1 | | JULY . | 13 2 24 | 13 1 22 |
| | JUNE . | | 16 12 53 16 0 42 | | Aug. | 11 15 8 | 11 8 26 |
| | JULY . | 31 5 36 | 1 | | SEPT | 10 3 52 | 9 16 49 |
| | AUG. | 1 | 14 14 52 | | Oct | 9 16 36 | 9 8 25 |
| | SEPT. | 1 | 13 7 13 | | Nov | (8 5 20 | 7 16 45 |
| | Oct. | | | | 0 | 22 23 42 | 23 6 36 |
| | Nov. | | | | DEC | 7 18 4 | 7 8 50 |
| | DEC. | . 11 2 54 | | 1700 | _ | 0 0 40 | 600 |
| 1795. | JAN. | . (9 15 38 | | 1798. c. | JAN | 6 6 48 | 6 3 3 |
| G. | JAN. | 24 10 (| | 11 | FEB | 4 19 32 6 8 16 | 6 16 27 |
| | FEB. | | | 9 10 50 | MAR. | 6 8 16 | 5 8 47 |
| 9 17 24 | | | | | APRIL | (4 9 44 | 4 22 22 |
| | APRI | | 1 | | MAY. | 19 4 6 | 18 20 30 |
| | MAY | 1 | - = 0 | | JUNE . | 2 22 28 | 3 9 11 |
| | JUNE | 1 | | 1 | JUME . | (2 11 12 | 2 17 54 |
| | JULY | . (520 | 2 5 9 54 | | JULY. | 81 23 56 | (1 1 30 |
| | 0 | 20 14 2 | | | Aug | 30 12 40 | 80 9 |
| | Aug. | . 4 8 4 | 6 3 20 3 | | SEPT | 29 1 24 | 28 17 35 |
| | SEPT | | - - 0 00 | | Oct | 28 14 8 | 28 3 44 |
| | Oct. | . \ 2 10 1 | | : | 0 | (12 8 30 | 12 14 55 |
| 1 | | 31 22 5 | | : | Nov | 27 2 52 | 26 15 55 |
| | Nov. | | | 11 | DEC | 26 15 36 | 26 6 19 |
| <u> </u> | DEC. | 1 30 0 2 | 6 30 8 36 | 3 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | Irne New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|---|--|--|----------------------------|---|---|--|
| Mean Vernal Equinox. A.D. 1799. B. March. d. h. m. 9 16 39 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC JAN FEB MAR O | d. h. m. 25 4 21 23 17 5 25 5 49 | Moon. | | JAN. FEB. O MAR. APRIL MAY. JUNE. JULY. AUG. O SEPT. OCT. NOV. DEC. JAN. FEB. | Moon. (O Full Eel.) d. h. m. 21 19 30 20 8 14 { 7 2 36 {21 20 59 20 9 43 19 22 27 18 11 11 17 23 55 {16 12 39 {81 7 1 15 1 23 14 14 7 18 2 51 12 15 85 11 4 19 9 17 3 11 5 47 | Moon. (O Full Ect.) d. h. m. 21 21 30 20 7 42 7 13 30 21 17 38 20 3 48 19 14 54 18 3 38 17 17 55 16 9 43 31 0 38 15 2 13 14 18 37 13 10 7 13 0 17 11 12 50 9 28 49 11 9 28 |
| 1801. F. 9 4 17 | MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC JAN FEB MAR . O APRIL MAY . JUNE JULY AUG O SEPT OCT NOV DEC. | 10 4 49 9 17 83 8 6 17 6 19 1 21 13 23 6 7 45 4 20 29 4 9 14 2 21 58 1 10 42 2 28 26 17 17 48 1 12 10 1 0 54 80 18 38 2 9 2 22 28 15 6 27 8 50 10 22 12 25 16 84 25 5 18 28 18 2 | 10 10 8 10 0 14 8 12 56 7 0 19 21 0 4 6 10 57 4 21 24 4 8 1 2 18 58 1 6 14 2 18 1 1 6 85 80 20 6 8 80 10 42 29 2 0 28 17 22 27 8 18 2 10 9 22 4 25 22 10 8 25 11 8 2 28 28 1 | 1804. c.b. 8 21 4 | MAY JUNE JULY AUG. SETT. OCT. NOV. DEC. O JAN. FRE. | 9 7 15 7 19 59 7 8 48 5 21 22 4 10 12 8 22 56 2 11 8 | 9 2 19 7 11 18 8 6 21 56 7 5 10 53 1 4 2 18 5 8 19 86 9 2 18 46 8 2 7 88 7 81 23 46 80 14 28 31 80 18 47 80 29 1 20 80 29 10 48 4 27 18 85 82 25 9 17 10 19 55 16 24 18 17 0 28 5 48 44 21 20 5 28 21 18 14 12 20 8 11 |

| 1 | | | | | | | |
|--|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 1805. | | d. h. m. | d. h. m. | A.D. 1808. | | d. h. m. | d. h. m. |
| Α. | 0 | (3 16 18 | 3 10 56 | E.D. | JAN | 16 1 51 | 15 18 26 |
| Money | JAN | 18 10 41 | 18 21 25 | March. | FEB | 14 14 35 | 14 11 11 |
| $\begin{array}{cccc} \mathbf{March.} \\ \mathbf{d.} & \mathbf{h.} & \mathbf{m.} \end{array}$ | FEB | 16 23 25 | 17 12 53 | d. h. m. 8 20 59 | MAR. | 15 3 19 | 15 4 37 |
| 9 8 32 | MAR. | 18 12 9 | 19 1 24 | 0 20 00 | APRIL | (13 16 3 | 13 21 40 |
| | APRIL | 17 0 53 | 17 11 10 | | 0 | 28 10 25 | 28 10 7 |
| | MAY . | 16 13 37 | 16 18 56 | | MAY. | 13 4 47 | 13 13 22 |
| | JUNE . | (15 2 21 | 15 1 41 | | June . | 11 17 31 | 12 3 3 |
| i | 0 | 29 20 43 | 29 23 31 | | JULY. | 11 6 15 | 11 14 36 |
| 1 | JULY . | 14 15 5 | 14 8 31 | | Aug | 9 18 59 | 10 0 33 |
| | Aug | 13 3 49 | 12 16 31 | | SEPT. | 8 7 43 | 8 9 41 |
| • | SEPT | 11 16 33 | 11 2 43 | | Ост | (7 20 27 | 7 18 49 |
| | Oct | 11 5 17 | 10 16 12 | | 0 | 22 14 49 | 22 10 51 |
| | Nov | 9 18 1 | 9 8 2 | | Nov. | 6 9 11 | 6 4 37 |
| | DEC | 6 9 6 45 | 9 2 36 | | DEC. | 5 21 55 | 5 15 27 |
| | 0 | 24 1 7 | 24 2 21 | | 220 | | |
| | | | | 1809. | JAN | 4 10 39 | 4 3 27 |
| 1806. | JAN | 7 19 30 | 7 22 11 | c. | FEB | 2 23 23 | 2 16 37 |
| G. | FEB | 6 8 13 | 6 17 4 | 9 2 47 | MAR. | 4 12 7 | 4 6 55 |
| 9 9 21 | MAR | 7 20 57 | 8 9 48 | 0 2 3 | APRIL | (3 0 51 | 2 22 11 |
| | APRIL | 6 9 41 | 6 23 32 | | O | 17 19 13 | 18 3 5 |
| | MAY . | 5 22 25 | 6 10 16 | | MAY. | 2 13 35 | 2 14 1 |
| | JUNE. | 4 11 9 | 4 18 41 | | | γ 1 2 19 | 1 5 48 |
| | JULY. | 8 23 53 | 4 1 44 | | JUNE. | 80 15 3 | 30 20 37 |
| | A.ug | 2 12 37 | 2 8 36 | | JULY . | 30 3 47 | 30 10 13 |
| | SEPT | $\int 1 1 21$ | 131 16 19 | | Aug | 28 16 31 | 28 22 24 |
| | 1 | (30 14 5 | 80 1 49 | | SEPT | 27 5 15 | 27 9 48 |
| } | Oct | 30 2 49 | 29 13 50 | | 0 | (11 23 37 | 11 11 88 |
| | Nov. | 28 15 33 | 28 4 36 | | OCT | 26 17 59 | 26 20 26 |
|] | DEC | 28 4 17 | 27 21 48 | | Nov. | 25 6 43 | 25 7 7 |
| 1807. | JAN | 26 17 2 | 06 16 00 | | DEC | 24 19 27 | 24 17 56 |
| F. | FEB. | 25 5 46 | 26 16 29 25 11 13 | | | | |
| 9 15 10 | MAR. | 26 18 30 | 27 4 34 | 1810. | JAN | 23 8 11 | 28 4 56 |
| | APRIL | 25 7 14 | 25 19 29 | В. | FEB | 21 20 55 | 21 16 12 |
| | 0 | (10 1 36 | 9 19 7 | 9 8 83 | MAR. | 23 9 40 | 23 4 2 |
| | MAY . | 24 19 58 | 25 7 39 | 0 000 | APRIL | 21 22 24 | 21 16 46 |
| | JUNE . | 23 8 42 | 23 17 21 | | MAY. | 21 11 8 | 21 6 38 |
| | JULY . | 22 21 26 | 23 1 20 | | JUNE . | 19 23 52 | 19 21 81 |
| | Aug. | 21 10 10 | 21 9 9 | | JULY. | 19 12 36 | 19 12 59 |
| | SEPT. | 19 22 54 | 19 17 15 | | Aug. | 18 1 20 | 18 4 20 |
| | Ocr | 19 11 38 | 19 2 39 | | SEPT. | 16 14 4 | 16 19 2 |
| | 0 | (3 6 0 | 3 10 36 | | Oct. | 16 2 48 | 16 8 58 |
| | Nov | 18 0 22 | 1 | | Nov. | 14 15 32 | 14 21 36 |
| | DEC | 17 13 6 | 17 3 9 | | DEC. | 14 4 16 | 14 9 31 |
| | | | | | | | 0 01 |
| | | | | | | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl. | Mean Vernal Equinox. | Month. | Maan New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|----------------------------------|----------------------------|-------------|------------------------------------|---|
| A.D. 1811. | | d. h. m. | d. h. m. | A.D. 1814. | - | d. h. m. | d. h. m. |
| Δ. | JAN | 12 17 0 | 12 20 38 | D. March. | JAN | 9. 8 10 | 9 16 43 |
| Moneh | FEB | (11 5 44 | 11 7 0 | d. h. m. | FEB | 7. 20 54 | 8 9 32 |
| March. $d. h. m.$ | 0 | 26 0 6 | 26 8 40 | 9 7 51 | MAR | 9 9 38 | 9 23 30 |
| 9 14 25 | MAR | 12 18 28 | 12 16 48 | , | APRIL | 7 22 22 | 8 10 28 |
| | APRIL | 11 7 12 | 11 2 29 | | MAY . | 7 11 6 | 7 19 2 |
| | MAY . | 10 19 56 | 10 12 46 | | JUNE. | 5 23 50 | 6 2 6 |
| | June. | 9. 8 40 | 9 0 23 | | JULY. | 5 12 34 | 5 8 44 |
| 1 | July. | 8 21 24 | 8 13 48 | | Aug | 4 1 18 | 3 16 3 |
| | Aug. | 7 10 8 | 7 4 58 | | SEPT | 2 14 2 | 2 1 7 |
| | 0 | 22 4 30 | 22 0 39 | | Ocr | 2 2 46 | 1 12 47 |
| | SEPT | 5 22 52 | 5 21 24 | } | | (31, 15, 30 | 31 3 33 |
| | Oct | 5 11 36 | 5 14 13 | | Nov | 30 4 14 | 29 21 5 |
| | Nov. | 4 0 20 | 4 6 32 | | 20 | 14 22 36 | 15 1 21 |
| | DEC | 3 13 4 | 3 21 38 | | DEC | 29 16 58 | 29 16 20 |
| | | (2 1 49 | 2 11 9 | 1815. | JAN | 28 5 43 | 28 11 44 |
| 1812. | JAN | 81 14 83 | 81 22 54 | c. | FEB. | 26 18 27 | 27 5 36 |
| G.F. | FEB. C | 15 8 55 | 15 8 12 | 9 13 40 | MAR. | 28 7 11 | 28 20 49 |
| | 36 | (1 8 17 | 1 9 0 | | APRIL | 26 19 55 | 1 |
| 8 20 14 | MAR. | 80 16 1 | 80 17 48 | | MAY . | | |
| | APRIL | 29 4 45 | 29 1 56 | | 0 | (10 3 1 | 1 |
| ļ | MAY | . 28 17 29 | 28 10 17 | | JUNE | 24 21 28 | 3 25 2 0 |
| | June . | . 27 6 19 | | | JULY | . 24 10 7 | 24 8 54 |
| | JULY | | 1 | | Aug. | . 22 22 51 | 22 16 11 |
| | 0 | §10 18 19 | | .]] | SEPT. | . 21 11 3 | 5 21 0 50 |
| 1 | Aug. | 1 ' | 1 | | Oct. | . 21 0 19 | 20 11 37 |
| | SEPT. | 1 | | | Nov. | . 19 18 | 8 19 1 8 |
| | Ocr. | . 28 9 9 | 1 | | 0 | (472 | 5 4 15 15 |
| | Nov. | . 21 21 58 | | 1 | DEC. | . 119 1 4 | 7 18 17 4 |
| | Drc. | . 21 10 37 | 7 21 20 6 | 1010 | 1. | 177 14 0 | 2 17 11 8 |
| 1813. | JAN. | . 19 28 29 | 2 20 11 20 | 1816. | JAN. | | |
| E. | 0 | (8174 | 4 8 11 9 | | FEB. | | 0 16 23 47 |
| | FEB. | . \ \ 18 12 | 6 19 0 8 | 8 19 2 | 1 . | 1 1 1 1 1 1 | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 |
| 9 2 | 8 MAR. | . 20 0 5 | 0 20 10 21 | . | APRI | | 28 15 5 25 |
| | APRI | r. 18 18 8 | 4 18 18 42 | 3 <u> </u> | MAY | 29 11 | 1 |
| 1 | MAY | . 18 2 1 | - | 11 | JUNE | 1 20 0 4 | . Caragas |
| | June | . 16 15 | 2 16 9 4 | · 11 | July | 40.40. | |
| | July | 1.7 | 1 | 13 | AUG. | 44 5 | 1 2 3 3 |
| | 0 | 30 22 | 8 81 5 18 | | SEPT | 0.00 | A CONTRACTOR |
| | Aug. | 1 | | ` 11 | Oct. | 1.0 | 8 9 157 |
| | SEPT | 1 | | 11 | Nov. | | 大学工程的 |
| | Ocr. | . 12 17 5 | | 9 ' | 10 | 22 16 | |
| | Nov. | | | В | DEC. | 7 10 | 36 7 0 84 |
| | Dgc. | . 10 19 2 | 26 10 21 5 | Z | | | 1 d 1 |
| - 1 | 1 | 1 | | | | V 4 | The state of the |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ed.) |
|---|--|---|--|--|--|---|---|
| A.D. 1817. G. March. d. h. m. 9 1 18 | JAN FEB MAR APRIL MAY . JUNE . | d. h. m. 5 23 20 4 12 4 6 0 48 4 13 32 4 2 16 2 15 0 { 2 3 44 | d. h. m. 5 14 47 4 6 39 5 23 36 4 16 46 4 9 6 2 23 48 2 12 30 | A.D. 1820. D.C. March. d. h. m. 8 18 44 | JAN FEB MAR O APRIL MAY . | d. h. m. 3 14 30 2 8 14 { 2 15 58 { 17 10 20 { 1 4 42 { 80 17 26 30 6 10 } | d. h. m. 3 19 38 2 6 18 2 16 10 17 20 56 1 1 34 30 11 12 29 21 51 |
| 1010 | Aug Sept Oct Nov Dec | 81 16 28 30 5 12 28 17 56 28 6 40 26 19 24 26 8 8 | 31 23 21 30 9 0 23 18 16 28 3 54 26 14 20 26 1 43 | | JUNE . JULY . AUG O SEPT OCT Nov Dec | 28 18 54 28 7 38 26 20 22 (10 14 44 (25 9 6 24 21 50 23 10 34 22 23 18 | 28 10 12 28 0 30 26 16 31 10 8 36 25 9 28 25 2 24 23 18 27 23 8 56 |
| 1818. F. 9 7 7 | JAN FEB MAR O APRIL MAY . JUNE . JULY . ÅUG SEPT O Oct Nov | 24 20 58 23 9 37 24 22 21 { 8 16 43 23 11 5 22 28 49 21 12 33 21 1 17 19 14 1 18 2 45 { 2 21 7 17 15 29 16 4 18 | 24 14 9 28 8 39 24 18 10 9 2 49 28 9 31 28 1 18 21 16 34 21 6 58 19 20 6 18 8 5 2 7 42 17 19 17 16 6 9 | 1821. B. 9 0 33 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 21 12 2 20 0 46 21 13 81 20 2 15 19 14 59 18 3 48 17 16 27 16 5 11 14 17 55 14 6 89 12 19 28 | 21 21 86 20 8 24 21 17 87 20 1 48 19 9 44 17 18 25 17 4 52 15 17 49 14 9 28 14 8 1 12 21 87 |
| 1819. E. 9 12 56 | Jan Feb Mar O April May . June . July . Aug Sept. | 10 21 22 10 10 6 8 22 50 | 15 17 0 14 3 52 12 14 48 14 2 3 29 15 31 12 18 58 12 2 59 10 17 14 10 8 26 9 0 8 7 15 23 | 1822. a. 9 6 22 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT | 12 8 7 {10 20 51 {25 15 13 9 9 35 10 22 20 9 11 4 8 23 48 7 12 32 { 7 1 16 {21 19 38 5 14 0 4 2 44 | 5 1 88 |
| | Oct. Nov. Dec. | 22 5 56 7 0 18 | 21 17 18 7 5 57 5 19 31 | | SEPT OCT Nov DEC | 4 2 44 3 15 28 2 4 12 { 1 16 56 { 31 5 40 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month, | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ect |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|----------|--|----------------------------------|
| A.D. 1823. | | d. h. m. | d. h. m. | A.D. 1826. | | d, h. m. | d. h. m. |
| G. | 0 | 15 0 2 | 14 19 46 | с. | Jan | | |
| 3.5 | JAN | 29 18 24 | 30 5 29 | March. | FEB. | 26 9 33 | 26 2 33 |
| March. d. h. m. | FEB | 28 7 8 | 28 20 53 | d. h. m. 9 5 37 | | 24 22 17 | 24 18 54 |
| 9 12 11 | MAR | 29 19 52 | 30 9 14 | 0 0 01 | MAR. | 26 11 2 | 26 11 48 |
| | APRIL | 28 8 36 | 28 18 49 | | APRIL | 24 23 46 | 25 4 28 |
| | MAY. | 27 21 20 | 28 2 26 | | O Mr. | 9 18 8 | 9 17 48 |
| | June . | 26 10 4 | 26 9 8 | | MAY. | 124 12 30 | 24 20 0 |
| | 0 | (11 4 26 | 11 5 59 | | JUNE. | 23 1 14 | 23 9 47 |
| | July . | 25 22 48 | 25 16 0 | | JULY. | 22 13 58 | 22 21 40 |
| | Aug | 24 11 82 | 24 0 7 | | Aug | 21 2 42 | 21 8 3 |
| | SEPT. | 28 0 16 | 22 10 30 | | SEPT | 19 15 26 | 19 17 39 |
| | Oct | | | | Oct | 19 4 10 | 19 3 16 |
| | | 1 | 21 23 47 | | 0 | ∫ 2 22 32 | 2 18 28 |
| | Nov. | | 20 16 3 | | Nov | 17 16 54 | 17 13 25 |
| | Dec | 20 14 28 | 20 10 36 | | DEC | 17 5 38 | 17 0 21 |
| | 0 | § 4 8 51 | 4 11 20 | | | | |
| 1824. | JAN | 119 8 18 | 19 6 24 | 1827. | JAN | 15 18 22 | 15 12 10 |
| F.K. | FEB | 17 15 57 | 18 0 48 | В, | FEB | 14 7 6 | 14 0 54 |
| 8 18 0 | MAR | 18 4 41 | 18 17 22 | 9 11 26 | MAR. | 15 19 51 | 15 14 37 |
| | APRIL | 16 17 25 | 17 6 57 | | APRIL | ∫14 8 35 | 14 5 18 |
| | MAY . | 16 6 9 | 16 17 37 | | 0 | 129 2 57 | 29 10 49 |
| | JUNE . | £14 18 58 | 15 2 1 | | MAY. | 13 21 19 | 13 20 40 |
| | 0 | 29 18 15 | 29 6 45 | | JUNE. | 12 10 3 | 12 12 11 |
| | JULY. | 14 7 87 | 14 9 18 | | JULY. | 11 22 47 | 12 3 12 |
| | Aug | 12 20 21 | 12 16 18 | | Aug | 10 11 31 | 10 17 11 |
| | SEPT | 11 9 5 | 11 0 16 | | SEPT | 9 0 15 | 9 6 0 |
| | Oct | 10 21 49 | 10 10 8 | | Oct | ſ 8 12 59 | 8 17 49 |
| | Nov. | 9 10 88 | 8 22 11 | | 0 | 23 7 21 | 22 19 20 |
| | DEC | 8 28 17 | 8 12 57 | | Nov | 7 1 48 | 7 5 4 |
| 1005 | | | | | DEC | 6 14 27 | 6 16 8 |
| 1825. ມ. | JAN | 7 12 1 | 7 5 56 | | | * | 9 4 1 |
| | FEB | 6 0 45 | 6 0 15 | 1828. | JAN. | 5 8 11 | 5 2 54 |
| 8 28 9 | MAR | 7 18 29 | 7 18 87 | A.G. | FEB. | 8 15 55 | 3 13 40 |
| | Arnil | 6 2 18 | 6 11 41 | 8 17 15 | MAR. | 4 4 39 | 4 0 28 |
| | MAY. | 5 14 57 | 6 2 28 | | APRIL | 2 17 23 | 2 11 42 |
| | _ 0 | 120 9 19 | 20 2 25 | | ZXI MIL | 12 6 7 | 1 23 50 |
| | June. | 4 8 41 | 4 14 38 | | MAY . | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 1 2 2 2 2 2 |
| | July. | 8 16 25 | 4 0 82 | | JUNE . | 80 7 85 | 30 3 57 |
| | Aug | (2 5 9 | 2 8 58 | | JULY, | 29 20 19 | 29 19 31 |
| | 2 | 181 17 58 | 81 16 59 | | Aug. | 28 9 3 | 28 11 16 |
| | SEPT | 80 6 87 | 30 1 28 | | | 26 21 47 | 25 11 10 |
| | Oct | 29 19 21 | 29 11 12 | | SEPT. | | 1. 人。在中国 |
| | 0 | £18 18 48 | 18 18 88 | | Oct | 26 10 31 | 26 16 56 |
| | Nov | 128 8 5 | 27 22 88 | | Nov. | 24 28 15 | 25 6 14 |
| 1.4 | DEC | 27 20 49 | 27 11 44 | | DEC | 24 11 59 | 24 18 24 |

| | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (○ Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| - | A.D. 1829. | | d. h. m. | d. h. m. | A.D. 1832. | | d. h. m. | d. h. m. |
| | F. | JAN | 23 0 44 | 23 5 31 | C.B. | JAN | 20 15 54 | 21 0 45 |
| | | FEB | 21 13 28 | 21 15 36 | March. $d.$ $h.$ $m.$ | FEB | 19 4 38 | 19 17 32 |
| | March. | 0 | (8 7 50 | 8 16 9 | 8 16 30 | Mar. | 19 17 22 | 20 7 21 |
| | d. h. m. 8 23 4 | MAR | 23 2 12 | 23 0 57 | 0 00 | APRIL | 18 6 6 | 18 18 10 |
| | 0 20 3 | APRIL | 21 14 56 | 21 10 7 | | MAY. | 17 18 50 | 18 2 35 |
| - | | MAY. | 21 3 40 | 20 19 55 | | JUNE. | 16 7 84 | 16 9 34 |
| | | June. | 19 16 24 | 19 7 11 | | | 15 20 18 | 15 16 13 |
| | | | 19 5 8 | 18 20 26 | | JULY. | 14 9 2 | 13 23 39 |
| | | JULY. | 1 | | | Aug | 12 21 46 | 12 8 53 |
| 1 | | Aug | 17 17 52 | 17 11 42 | | SEPT | | |
| 1 | | ~ 0 | 1 12 14 | 1 8 31 | [| Oct | 12 10 30 | 11 20 45 |
| | | SEPT | (16 6 36 | 16 4 29 | | Nov. | 10 23 14 | 10 11 36 |
| | | Oct. | 15 19 20 | 15 21 48 | | Dec | 10 11 58 | 10 5 8 |
| | | Nov | 14 8 4 | 14 14 39 | | 0 | 125 6 20 | 25 10 19 |
| 1 | | DEC | 18 20 48 | 14 6 11 | 4000 | _ | 9 0 42 | 9 0 17 |
| | 1830. | JAN | 12 9 33 | 12 19 53 | 1833. | JAN | | 1 |
| | E. | FEB. | (10 22 17 | 11 7 32 | A. | FEB | 7 13 27 | 7 19 31 |
| | | 0 | 25 16 39 | 25 15 50 | 8 22 19 | MAR. | 9 2 11 | 9 13 11 |
| | 9 4 52 | MAR. | 12 11 1 | 12 17 21 | | APRIL | 7 14 55 | 8 4 13 |
| | 0 102 | APRIL | 10 28 45 | 11 1 46 | | MAY . | 7 3 39 | 7 16 16 |
| | | MAY . | 10 12 29 | 10 9 4 | | JUNE. | 5 16 23 | 6 1 42 |
| 1 | | June . | 9 1 13 | 8 17 33 | | 0 | 20 10 45 | 20 3 2 |
| | | July. | | 8 2 53 | | JULY . | 5 5 7 | 5 9 24 |
| | | Aug. | 10 | | | Aug | 3 17 51 | 3 16 31 |
| | | 0 | 21 21 8 | 1 | | SEPT | 2 6 35 | 2 0 8 |
| 1 | | SEPT. | 1 | | | Ocr | s 1 19 19 | 1 8 59 |
| 1 | | Ocr. | | | | 001. | 31 8 3 | 30 20 0 |
| | | Nov. | | | | Nov | 29 20 47 | 29 9 29 |
| | | | 3 5 37 | | | 0 | £14 15 9 | 14 23 57 |
| | | DEC. | . 5 5 5 6 | 3 10 52 | | DEC | 29 9 31 | 29 1 20 |
| | 1831. | JAN. | f 1 18 2 | 2 4 26 | | _ | | 05 10 55 |
| | D. | J AM. | · \81 7 { | 5 31 19 44 | 1834. | JAN | 27 22 15 | 27 18 57 |
| | | FEB. | 0 15 1 27 | 14 19 15 | G. | FEB | 26 10 59 | 26 13 17 |
| | 9 10 41 | MAR. | f 1 19 49 | 9 2 8 19 | 9 4 8 | MAR. | 27 23 43 | 28 6 57 |
| | V.10 11 | HIAM. | , £31 8 3 | 3 31 18 22 | 1 | APRIL | 26 12 27 | 26 22 52 |
| | | APRII | 29 21 17 | 7 30 2 27 | | MAY. | 26 1 11 | 26 12 20 |
| | | MAY | . 29 10 1 | l 29 928 | 1 | 0 | § 9 19 33 | |
| | | June | . 27 22 4 | 5 27 16 25 | 1 | JUNE . | 24 13 55 | |
| | | JULY | . 27 11 29 | 9 27 027 | | JULY . | | 24 8 88 |
| | | 0 | 11 5 5 | 1 11 12 25 | | Aug | | 22 16 50 |
| | | Aug. | . 26 0 1 | 3 25 10 37 | 1 | SEPT | | 21 1 12 |
| | | SEPT. | . 24 12 5 | 7 23 23 40 | | Ocr | , | 20 10 25 |
| | | Oct. | . 24 1 4 | 1 23 15 47 | | Nov. | 1 | |
| * | | Nov. | . 22 14 2 | 5 22 10 17 | 1 | 0 | 3 23 57 | |
| | ' | DEC. | . 22 3 | 9 22 5 50 | · | DEC. | 18 18 19 | 18 9 16 |
| | L | | <u> </u> | | 11 | (4) (| Д | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------|------------------------------------|----------------------------|---------|------------------------------------|------------------------------------|
| A.D. 1835. | | d. h. m. | d. h. m. | A.D. 1838. | | d. h. m. | d. h. m. |
| March. | JAN | 17 7 3 | 16 23 11 | B. | JAN. | 13 22 14 | 14 4 33 |
| d. h. m. | FEB | 15 19 47 | 15 14 35 | d. h . m . | FEB. | 12 10 58 | 12 15 0 |
| 9 9 57 | MAR | 17 8 32 | 17 7 0 | 9 8 28 | MAR. | (13 23 42 | 14 0 28 |
| | APRIL | 15 21 16 | 15 23 40 | | 0 | 28 18 4 | 29 4 12 |
| | MAY . | ſ15 10 O | 15 15 45 | | APRIL | 12 12 26 | 12 9 21 |
| | 0 | 180 4 22 | 30 1 7 | | MAY . | 12 1 10 | 11 18 33 |
| | JUNE . | 13 22 44 | 14 6 27 | | JUNE. | 10 13 54 | 10 4 47 |
| | JULY . | 13 11 28 | 18 19 22 | | JULY. | 10 2 38 | 9 16 54 |
| | Aug | 12 0 12 | 12 6 89 | | Aug. | 8 15 22 | 1 |
| | SEPT | 10 12 56 | 10 16 49 | | SEPT. | 7 4 6 | 8 7 12 6 23 27 |
| | Oct | 10 1 40 | 10 2 37 | | 0 | 21 22 28 | |
| | Nov. | 8 14 24 | 8 12 38 | | 0 | 6 16 50 | 21 16 44 |
| | DEC. | 8 8 8 | 7 28 15 | | Nov. | 1 | 6 16 51 |
| | 2 | | . 20 10 | | | 5 5 34 | 5 10 19 |
| 1836. | JAN | 6 15 53 | 6 10 85 | | DEC | 4 18 18 | 5 2 49 |
| E.D. | FEB. | 5 4 37 | 4 22 39 | | | | |
| 8 15 45 | MAR. | 5 17 21 | 5 11 86 | 1839. | JAN | 8 7 2 | 8 17 86 |
| | APRIL | (465 | 4 1 80 | Α, | FEB | 1 19 46 | 2 6 14 |
| | 0 | 19 0 27 | 19 10 86 | 9 9 12 | MAR | 8 8 80 | 8 16 50 |
| | MAY. | 3 18 49 | 8 16 19 | | APRIL | 1 21 14 | 2 1 48 |
| | June . | 2 7 83 | 2 7 41 | | MAY . | ſ 1 9 58 | 1 9 80 |
| | 00 | (1 20 17 | 1 28 2 | | ACLES 4 | 180 22 42 | 80 17 6 |
| | JULY. | 81 9 1 | 81 18 45 | | June . | 29 11 26 | 29 1 33 |
| | Aug. | 29 21 45 | 80 8 28 | | JULY. | 29 0 10 | 28 11 58 |
| | SEPT. | 28 10 29 | 28 15 57 | | Aug | 27 12 54 | 27 0 51 |
| | | (18 4 51 | 12 15 80 | | SEPT | 26 1 88 | 25 16 86 |
| | Oct. | 27 28 18 | 28 8 48 | | Ocr | 25 14 22 | 25 10 88 |
| | Nov. | 26 11 57 | 26 15 1 | | Nov | 24 8 6 | 24 5 81 |
| | DEC. | 26 0 41 | 1 | | Dec | 28 15 50 | 28 28 57 |
| | DEC. | 20 0 41 | 26 1 58 | | | | 1, |
| 1837. | JAN | 24 18 25 | 24 12 41 | 1840. | JAN | 22 4 84 | 22 16 88 |
| C. | FEB. | 23 2 9 | 22 28 16 | G-F- | 0 | r 5 22 56 | 5 16 14 |
| 8 21 84 | MAR. | 24 14 58 | 24 9 57 | | FEB | 20 17 18 | 21 6 29 |
| | 0 | (8 9 15 | 8 23 4 | 8 15 1 | MAR. | 21 6 8 | 21 17 41 |
| | APRIL | 28 8 87 | 22 21 16 | | APRIL | 19 18 47 | 20 2 81 |
| | MAY . | 22 16 21 | 22 9 47 | | MAY. | 19 7 81 | 19 9 50 |
| | JUNE. | 21 5 5 | 20 28 44 | | June . | 17 20 15 | 17 16 85 |
| | July . | 20 17 49 | 20 14 55 | | JULY. | 17 8 59 | 17 0 81 |
| | Aug. | 19 6 83 | 19 6 49 | | 0 | (1 8 21 | 1 9 44 |
| | SEPT. | 17 19 17 | 17 22 89 | | Aug. | 15 21 48 | 15 8 55 |
| | 0 | (2 18 89 | 2 1 22 | | SEPT. | 14 10 27 | 18 20 82 |
| | Oct | 17 8 1 | 17 18 10 | | Ocr. | 18 28 11 | 18 11 18 |
| | Nov. | 15 20 45 | 16 8 57 | | Nov. | 12 11 55 | 12 4 44 |
| | DEC. | 15 9 29 | 15 16 52 | | DEC. | 12 0 89 | 12 0 1 |
| | | | ~U AU UZ | | | U 00 | |
| | | | | 1 | | | and the second |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|--|--|---|--|---|---|---|
| A.D. 1841. E. March. d. h. m. 8 20 50 | Jan O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEFT OCT | d. h. m. {10 13 24 \ 25 7 46 9 2 8 \ 10 14 52 9 3 86 8 16 20 7 5 4 \ 6 17 48 \ 21 12 10 5 6 32 8 19 16 3 8 0 | d. h. m. 10 19 30 25 4 33 9 13 28 11 4 45 9 16 57 9 2 22 7 9 54 6 16 36 21 12 31 4 23 38 8 7 53 2 18 28 | A.D. 1844. B.A. March. d. h. m. 8 14 16 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT | d. h. m. 8 4 84 6 17 18 7 6 2 5 18 46 { 5 7 80 20 1 52 3 20 14 8 8 58 { 1 21 42 21 10 26 29 28 10 29 11 54 | d. h. m. 7 20 21 6 10 50 7 2 80 5 18 58 5 11 10 20 1 20 4 2 85 3 16 80 2 4 45 81 15 38 80 1 48 29 11 58 |
| 1842. p. 9 2 88 | Nov Dec O Jan Feb Mar April May . June . O July . Aug Sept Oct Nov Dec | 22 16 48 22 5 32 20 18 16 | 1 7 52 1 0 10 30 18 37 14 20 14 29 13 53 28 8 23 30 0 43 28 14 12 28 0 50. 26 9 20 10 13 19 25 16 42 24 0 3 22 8 21 21 18 24 20 6 41 19 21 20 | 1845. g. 8 20 5 | O NOV DEC JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | 18 6 16 28 0 38 27 18 22 26 2 6 24 14 50 26 3 84 24 16 18 (9 10 40 (24 5 2 22 17 46 22 6 30 20 19 14 19 7 58 18 20 42 (2 15 4 (17 9 26 16 22 10 | 18 2 15 27 22 20 27 9 17 25 20 51 24 9 5 25 22 10 24 12 16 9 18 26 24 3 18 22 18 36 22 9 47 21 0 18 19 18 36 19 2 2 2 3 15 17 18 46 17 1 0 |
| 1843. c. 9 8 27 | JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. O DEC. | 17 8 29 18 21 13 17 9 57 16 22 41 15 11 25 15 0 9 18 12 53 | 25 2 34 | 1846. F. 9 1 54 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG. SEPT OCT Nov DEC. | 12 2 35 11 15 19 10 4 8 8 16 47 8 5 81 | 15 11 50 18 22 18 15 8 86 18 19 16 18 6 51 11 19 53 11 10 27 10 2 10 8 18 20 8 10 18 7 1 11 6 14 55 |

| Name | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| March. Gallet March. Gallet March. Gallet March. Gallet March. Gallet March. Gallet March. Gallet March. Gallet March. Gallet March. Gallet G | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| March Albert Al | E. | JAN | 4 19 44 | 5 3 18 | | - | (1 10 58 | 1 13 51 |
| S | | FEB | 3 8 28 | 3 14 18 | | JAN | 80 28 37 | |
| APRIL | | | 12 | | | FEB | | |
| May 2 22 40 2 17 89 | | _ | | | | MAR | 12 | |
| June . 1 11 24 { 1 3 2 } | | | | | | | | |
| July . \begin{cases} ca | | | | | | | | |
| Aug 29 1 86 28 18 84 Aug 27 4 1 26 23 44 Aug 27 14 20 27 11 41 Oct 27 8 4 27 5 80 Nov 25 15 48 25 25 14 44 Oct 25 14 82 25 14 44 Oct 25 16 83 April 21 7 28 21 9 86 May . 20 20 12 20 17 0 June . 19 8 56 19 0 46 July . 18 21 40 18 9 58 Aug 17 10 24 16 21 34 Aug 21 15 16 21 34 Aug 21 15 16 21 34 Aug 20 8 25 26 8 8 15 12 1 Oct 15 11 52 15 5 6 Nov 14 0 86 18 23 55 Dec 18 18 20 18 18 57 18 19 20 Mar 12 2 8 81 12 16 29 Arril 20 0 10 10 17 5 June . 10 6 17 11 2 16 May . 10 6 1 7 11 2 16 May . 10 6 1 7 11 2 16 May . 10 6 1 7 11 2 16 May . 10 6 1 7 11 2 16 May . 10 6 1 7 11 2 16 July . 8 6 29 7 28 49 Aug 6 19 18 6 29 Aug 6 19 18 6 20 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 8 6 29 7 28 49 Aug 6 19 18 6 7 51 Oct 6 19 18 0ct 6 19 18 0ct 6 19 18 0ct 6 19 18 0ct. | | ~ | (108 | (30 13 59 | | | | 27 16 58 |
| O | | JULY. | (80 12 52 | 30 3 9 | | July. | 27 4 1 | 26 23 44 |
| SEPT 27 14 20 27 11 41 OCT. 27 3 4 27 5 30 Nov. 25 15 48 25 22 51 DEC. 25 4 82 25 14 44 1848. D.C. FEB. 22 6 0 22 16 8 O 8 0 22 7 28 17 8 18 81 MAR. 22 18 44 23 1 83 APRIL 21 7 28 21 9 36 MAY 20 20 12 20 17 0 JUNE 19 8 56 19 0 46 JULY 18 21 40 18 9 58 AUG. 17 10 24 16 21 34 OCT. 18 18 22 88 19 11 24 OCT. 16 12 50 16 16 44 AUG. 17 10 24 16 21 34 OCT. 18 18 23 4 55 DEC. 21 19 41 21 18 18 OCT. 22 18 18 18 23 4 55 DEC. 25 4 82 25 14 44 1851. OCT. 23 18 18 23 4 55 DEC. 21 19 41 DEC. | | Aug | | | | Aug | 25 16 45 | 25 7 21 |
| Oct 27 3 4 27 5 30 Nov 25 15 48 25 22 51 Dec 25 4 32 25 14 44 1848. Jan 28 17 16 24 4 81 D.C. Feb 22 6 0 22 16 8 O | | | 12 | | | | | 23 16 48 |
| Nov 25 15 48 25 22 51 Dec 21 19 41 21 18 16 Dec 25 4 82 25 14 44 O 5 14 8 5 19 16 Sept 22 6 0 22 16 8 O Sept 18 21 9 19 3 7 Sept 18 21 40 18 9 58 Aug 17 10 24 16 21 84 O July . 18 21 40 18 9 58 Dec 15 11 52 15 5 6 Nov 14 0 86 18 23 55 Dec 18 18 20 18 18 27 Sept 18 18 20 18 18 27 Sept 18 18 20 18 18 27 Oct 15 11 52 15 5 6 Nov 14 0 86 18 23 55 Dec 18 18 20 18 18 57 Is 40 14 9 14 9 14 9 14 8 15 0 14 8 16 12 14 9 18 8 16 Oct 15 10 10 17 5 4 16 11 14 10 10 17 10 10 10 17 10 10 10 17 10 10 10 10 11 10 10 17 10 10 10 10 11 10 10 17 10 10 10 10 10 10 10 10 10 10 10 10 10 | | | 1 | | | | | |
| Dec. 25 4 82 25 14 44 O | | | 1 | | | _ | | |
| 1848. Jan 28 17 16 24 4 81 D.C. Feb 22 6 0 22 16 8 O | | | 1 | | | | | |
| D.C. FEB 22 6 0 22 16 8 O 22 16 8 O 22 16 8 O 22 7 28 17 0 O 8 18 81 81 MAR 22 18 44 23 1 88 APRIL 21 7 28 21 9 86 MAY . 20 20 12 20 17 0 JUNE . 19 8 56 19 0 46 JULY . 18 21 40 18 9 58 AUG 17 10 24 16 21 34 O 11 15 15 21 5 5 6 Nov 14 0 86 18 23 55 DEC 18 18 20 18 18 57 DEC 18 18 20 18 18 57 JUNE . 10 16 17 11 2 16 MAY . 10 5 1 10 10 7 JUNE . 8 6 29 7 28 49 AUG 6 6 19 13 6 7 51 O 121 18 35 21 19 87 O 128 T 10 28 8 15 5 2 10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 | 4040 | | | | 1851 | _ | 12 | |
| 8 18 31 MAR 22 0 7 28 17 9 6 58 MAR 20 9 54 20 20 38 APRIL 18 22 38 19 11 24 MAY . 18 11 22 18 28 19 24 MAY . 18 14 18 18 8 27 MAY . 18 14 18 18 8 28 15 12 11 MOV . 11 15 48 11 48 MOV . 11 15 48 11 48 MOV . 11 15 48 11 48 MOV . 11 15 48 11 48 MOV . 11 15 48 11 48 MOV . 11 15 48 11 48 MOV . 11 15 48 11 48 MOV . 11 15 48 MOV | | | | | | | | |
| 8 18 81 MAR 22 18 44 28 1 88 APRIL 21 7 28 21 9 86 MAY . 20 20 12 20 17 0 JUNE . 19 8 56 19 0 46 JULY . 18 21 40 18 9 58 AUG 17 10 24 16 21 34 OCT 15 11 52 15 5 6 Nov 14 0 86 18 28 55 DEC 18 18 20 18 18 57 DEC 18 18 20 18 18 57 Sept 10 14 49 11 4 2 2 5 9 11 25 8 16 MAY . 10 5 1 10 10 7 JUNE . 8 6 29 7 28 49 AUG 6 6 19 18 6 7 51 OCT 18 8 6 29 7 28 49 AUG 6 6 19 18 6 7 51 OCT 6 6 19 18 6 7 51 OCT 6 6 19 18 6 7 51 OCT 6 6 19 18 6 7 51 OCT 18 8 5 21 29 8 8 10 17 5 4 20 8 10 17 5 4 21 88 5 21 19 87 OCT 10 10 24 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 17 5 4 20 8 10 10 17 5 4 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 7 20 8 10 10 10 10 10 10 10 10 10 10 10 10 10 | 2 | | | | 9 6 58 | | | 20 20 34 |
| APRIL 21 7 28 21 9 86 MAY . 20 20 12 20 17 0 JUNE . 19 8 56 19 0 46 JULY . 18 21 40 18 9 58 AUG 17 10 24 16 21 34 O | 8 18 81 | | 1) | | | | | 19 11 26 |
| MAY . 20 20 12 20 17 0 June . 19 8 56 19 0 46 July . 18 21 40 18 9 58 Aug 17 10 24 16 21 34 O | 0 20 02 | | ; ~ | | | MAY . | 18 11 22 | 18 23 26 |
| July : 18 21 40 18 9 58 Aug. 17 10 24 16 21 34 | | | 20 20 12 | 20 17 0 | | JUNE . | | |
| Aug. 17 10 24 16 21 34 O | | JUNE. | 19 8 56 | 19 0 46 | | | 12 | |
| O | | July: | | 1 | | | 1 | |
| Sept. 15 28 8 15 12 1 Nov. 11 15 46 11 4 8 Nov. 14 0 86 18 28 55 Dec. 18 18 20 18 18 57 Dec. 18 18 20 18 18 57 Dec. 12 2 5 12 12 48 Feb. Compared to the compared | | | | | | _ | | |
| Nov. 14 0 86 18 28 55 Dec. 18 18 20 18 18 57 B. Feb. | | | 12 | | | | 1 | |
| Nov 14 0 86 18 28 55 DEC 18 18 20 18 18 57 1849. B. FEB (10 14 49 11 4 2) C (25 9 11 25 8 16) 8 19 20 MAR 12 8 88 12 16 29 APRIL 10 16 17 11 2 16 MAY . 10 5 1 10 10 7 JUNE . 8 17 45 8 16 46 JULY . 8 6 29 7 28 49 AUG (6 19 18 6 7 51) C (21 18 85 21 19 87) DEC (11 4 80 10 17 5 6) (25 22 52 26 8 8) 1852. FEB 8 5 59 8 2 5 MAR 8 18 48 8 20 4 APRIL 7 7 27 7 18 5 APRIL 6 20 11 7 5 4 JUNE . (6 19 18 6 7 51) C JULY . 4 21 89 5 6 2 AUG (8 19 18 85 21 19 87) | | | \ == - | | | | 1 | 1 |
| DEC 18 18 20 18 18 57 B. JAN 12 2 5 12 12 48 FEB (10 14 49 11 4 2) | | | | | | DEC | (11 4 80 | 10 17 59 |
| 1849. B. Jan. 12 2 5 12 12 48 FEB. (10 14 49 11 4 2 5 8 16 8 12 47 Mar. 8 18 48 8 20 4 | | | 1 | i | | 0 | 25 22 52 | 26 8 87 |
| B. FEB (10 14 49 11 4 2 | 1849 | | 12 2 5 | 12 12 48 | 1852. | JAN | 9 17 14 | 9 9 87 |
| O 25 9 11 25 8 16 8 12 47 MAR. 8 18 48 8 20 4 APRIL 10 16 17 11 2 16 MAY. 10 5 1 10 10 7 JUNE. 8 6 29 7 28 49 AUG. 6 19 18 6 7 51 O 21 18 85 21 19 87 SEPT. 128 48 8 20 4 AAR. 8 18 48 8 20 4 APRIL 7 7 27 7 18 5 MAY. 6 20 11 7 5 4 JUNE. 5 8 55 5 19 1 O 30 8 17 19 17 5 AUG. 8 10 28 8 15 5 SEPT. 1 28 7 2 0 8 | | | | | F.E. | FEB | 8 5 59 | 8 2 50 |
| MAR. 12 5 85 12 16 25 10 16 17 11 2 16 MAY . 6 20 11 7 5 4 JUNE . 5 8 55 5 19 1 20 8 17 45 8 16 46 JULY . 8 6 29 7 28 49 Aug 6 19 18 6 7 51 O 21 18 85 21 19 87 SEPT 1 28 7 2 0 8 | | | 1) | 25 8 16 | 8 12 47 | MAR | 1 | 8 20 41 |
| MAY . 10 5 1 10 10 7 JUNE . 8 17 45 8 16 46 JULY . 8 6 29 7 28 49 Aug 6 19 18 6 7 51 O 21 18 35 21 19 87 JUNE . 5 8 55 5 19 1 O 20 8 17 19 17 5 SEPT 1 28 7 2 0 8 | 8 19 20 | MAR | 12 8 88 | 12 16 29 | | 40.54 | 1 | |
| June . 8 17 45 8 16 46 July . 8 6 29 7 28 49 Aug 6 19 18 6 7 51 O \{21 18 85 21 19 87\} Sept 1 28 7 2 0 8 | | | 1 | | | | | |
| JULY 8 6 29 7 28 49 Aug. 6 19 18 6 7 51 Q 21 18 85 21 19 87 JULY 4 21 89 5 6 2 Aug. 8 10 28 8 15 5 Sept. 1 28 7 2 0 8 | | | 1 | 1 | | | 1) | |
| Aug. 6 19 13 6 7 51 Aug. 8 10 23 8 15 5 21 18 85 21 19 87 Sept. 1 28 7 2 0 8 | | | | | | | | |
| O 21 18 85 21 19 87 SEPT. 1 28 7 2 0 8 | | | | | | | | |
| | | 1 | 12 | | | | 1 28 7 | 2 0 89 |
| SEPT 9 7 97 4 18 7 Oct) | | | | 1 | | Ocm | 5 1 11 51 | 1 9 28 |
| Oct. 4 20 41 4 7 19 81 0 85 80 19 | | | | | | | | 1 1 1 1 |
| NOV 8 9 25 2 20 50 | | Nov | 8 9 25 | 2 28 86 | | 1 | | 1 1 1 1 1 1 |
| 1 DEC 2 22 9 2 10 10 | 1 | DEC | 2 22 9 | 2 18 18 | | 1 | 1 | |

| | | | | | | | *************************************** |
|----------------------------|-------------|------------------------------------|------------------------------------|----------------------------|--------|----------------|---|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. Full Ecl.) |
| A.D. 1853, | | d. h. m. | d. h. m. | A.D. 1856. | * | d. h. m. | d. h. m. |
| D. | JAN | 27 14 47 | 27 7 36 | A.G. | JAN | 25 5 57 | 25 18 21 |
| March. | FEB | 26 3 31 | 25 22 27 | March. d. h. m. | FEB | 23 18 41 | 28 28 81 |
| d. h. m. 8 18 35 | MAR. | 27 16 15 | 27 14 15 | 8 12 2 | MAR. | 21 7 25 | 24 8 88 |
| 0 20 00 | APRIL | 26 4 59 | 26 6 26 | | 0 | CH 1 47 | 8 11 17 |
| | MAY. | 25 17 48 | 25 22 16 | | APRIL. | 22 20 9 | 22 17 7 |
| | | (912 5 | 9 8 81 | | MAY. | 22 8 58 | 22 1 49 |
| | O June . | 24 6 27 | 24 13 8 | | June . | 20 21 87 | 20 11 44 |
| | July. | 23 19 11 | 24 2 16 | | July . | 20 10 21 | 19 23 89 |
| | Aug. | 22 7 55 | 22 14 1 | | Aug. | 18 28 5 | 18 14 0 |
| | SEPT. | 20 20 39 | 21 0 44 | | SEPT. | 17 11 49 | 17 6 30 |
| | Oct | 20 20 33 | 20 11 8 | | | (2 6 11 | 2 1 0 |
| | Nov. | 18 22 7 | 18 21 28 | | Ocr | 17 0 83 | 17 0 19 |
| | | 18 10 51 | | | Nov. | 15 18 17 | 15 18 17 |
| | DEC | 10 10 91 | 18 8 13 | | | 15 2 1 | 15 11 12 |
| 1854. | JAN | 16 23 36 | 16 19 24 | l | Drc | 10 2 1 | 10 11 13 |
| C. | FEB. | 15 12 20 | 15 7 4 | | | | |
| 9 0 24 | MAR. | 17 1 4 | 16 19 25 | 1857. | JAN | 18 14 46 | 14 2 11 |
| 9 0 24 | | (15 13 48 | 15 8 41 | F. | FEB | 12 8 30 | 12 14 48 |
| | APRIL | 30 8 10 | 30 18 15 | 8 17 51 | MAR | 18 16 14 | 14 1 10 |
| | MAY. | 15 2 32 | 14 23 0 | | Arril | 12 4 58 | 12 9 41 |
| | | 13 15 16 | | | MAY . | 11 17 42 | 11 17 8 |
| | JUNE. | | 18 14 7 | | JUNE . | 10 6 26 | 10 0 26 |
| | JULY . | | 18 5 31 | | July. | 9 19 10 | 9 8 48 |
| | Aug | | 11 20 88 | | Aug | 8 7 54 | 7 19 0 |
| 1 | SEPT. | 1 | 10 10 45 | | SEPT | 6 20 88 | 688 |
| | Oct | 24 12 34 | | | Ocr | 6 9 22 | 600 |
| 1 | Nov. | 1 7 | | | Nov | 4 22 6 | 4 18 14 |
| | 1 | 1 | | | DEC | 4 10 50 | 4 18 29 |
| | DEC. | 1 13 40 | 7 28 58 | | | | |
| 1855. | JAN. | . 6 8 25 | 6 10 57 | 1858. | JAN | 2 28 85 | 8 8 12 |
| в. | FEB. | | | E. | FEB | (1 12 19 | 2 0 49 |
| 9 .6 18 | | | | ļ | 0 | 16 6 41 | 16 0 82 |
| | APRIL | (4 22 37 | | 8 23 40 | MAR. | 8 1 8 | 8 14 40 |
| | 0 | 19 16 59 | | | APRIL | 1 18 47 | 2 1 87 |
| | MAY | . 4 11 21 | | | | (1 2 81 | 1 10 14 |
| | JUNE | . 3 0 5 | | | MAY . | 80 15 15 | 80 17 19 |
| | JULY | | 1 | | JUNE . | 29 8 59 | 29 O O |
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| Nov 1 18 16 | | | | 1 | | SEPT. | 80 15 42 | 80 21 21 |
| Dec \begin{pmatrix} 1 & 2 & 0 & \ 80 & 15 & 16 \\ 80 & 14 & 44 & 80 & 5 & 46 \end{pmatrix} \text{Nov.} & \begin{pmatrix} 18 & 22 & 43 & 15 & 11 & 20 \\ 80 & 14 & 44 & 80 & 5 & 46 \end{pmatrix} \text{Nov.} & \begin{pmatrix} 18 & 27 & 10 & 28 & 22 & 82 \\ 28 & 5 & 54 & 28 & 9 & 58 \end{pmatrix} \text{1861.} & Jan. & 29 & 3 & 29 & 28 & 22 & 6 \\ A. & Feb. & 27 & 16 & 18 & 27 & 15 & 82 \\ 8 & 17 & 6 & Mar. & 29 & 4 & 57 & 29 & 9 & 1 \\ A. PRIL & 27 & 17 & 41 & 28 & 1 & 29 \\ May & 27 & 6 & 25 & 27 & 16 & 7 \\ June & 25 & 19 & 9 & 26 & 4 & 81 \\ July & 25 & 7 & 58 & 25 & 14 & 58 \\ A. Ug. & 28 & 20 & 87 & 24 & 0 & 11 \\ Sept. & 22 & 9 & 21 & 22 & 9 & 5 \\ Oct. & 21 & 22 & 5 & 21 & 18 & 25 \\ Oct. & 21 & 22 & 5 & 21 & 18 & 25 \\ Oct. & 21 & 22 & 5 & 21 & 18 & 25 \\ Oct. & 21 & 22 & 5 & 21 & 18 & 25 \\ \end{pmatrix} \text{Nov.} & \begin{pmatrix} 18 & 12 & 24 & 24 & 18 & 11 & 20 \\ 10 & 11 & May & 28 & 21 & 85 & 22 & 13 & 50 \\ 10 & 14 & 7 & 0 & 8 & 54 \\ Oct. & 21 & 22 & 5 & 21 & 18 & 25 \\ \end{pmatrix} \text{19} & 0 & 81 & 19 & 1 & 81 \\ \end{pmatrix} \text{19} & 0 & 81 & 19 & 1 & 81 \\ \end{pmatrix} \text{19} & 0 & 81 & 19 & 1 & 81 \\ \end{pmatrix} \text{19} & 0 & 81 & 19 & 1 & 81 \\ \end{pmatrix} \text{19} & 0 & 81 & 19 & 1 & 81 \\ \end{pmatrix} \text{10} \text{10} & \text{10} & \text{10} & \text{10} & \text{11} & \text{10} & \text{10} & \text{11} & \text{10} & \text{11} & \text{10} & \text{11} & \text{11} & \text{12} & \text{12} & \text{12} & \text{11} & \text{11} & \text{11} & \text{12} & \text{11} & \text{12} & \text{11} & \text{11} & \text{11} & \text{11} & \text{12} & \text{12} & \text{11} & \text{12} & \text{11} & \text{11} & \text{12} & \text{12} & \text{11} & \text{12} & \text{11} & \text{11} & \text{12} & \text{11} & \text{12} & \text{12} & \text{13} & \t | | | | | | Oct | 80 4 26 | 80 10 28 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
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| March. | JAN | 15 3 27 | 15 12 17 | G.F. | JAN | 12 18 37 | 12 21 46 |
| d. h. m. | FEB | 13 16 11 | 13 22 57 | March. $d. h. m.$ | FEB | 11 7 21 | 11 16 33 |
| 8 16 21 | MAR | (15 4 55 | 15 8 22 | 8 9 48 | MAR | 11 20 5 | 12 9 4 |
| | 0 | 29 23 17 | 30 6 35 | | APRIL | 10 8 49 | 10 22 33 |
| | APRIL | 13 17 39 | 13 16 50 | | MAY . | 9 21 33 | 10 9 7 |
| | MAY . | 13 6 23 | 13 1 5 | | JUNE . | 8 10 17 | 8 17 23 |
| ļ | JUNE . | 11 19 7 | 11 10 7 | | JULY . | 7 23 1 | 8 0 25 |
| | JULY . | 11 7 51 | 10 20 51 | | Aug. | 6 11 45 | 6 7 21 |
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| | Oct | 26 19 36 | 26 12 44 | | Oct | 23 10 46 | 28 1 46 |
| | Nov | 25 8 20 | 25 7 47 | | Nov. | 21 23 30 | 21 13 9 |
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| 1867. | JAN. | 28 9 48 | 23 20 52 | | 0 | (5 6 36 | 5 17 16 |
| A. | FEB | 21 22 32 | 22 12 9 | 1870. | JAN. | 20 0 58 | 19 17 51 |
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| Mean Vernal Equinox. | Month. | Mean New Moon- (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|---|--|--|---|--|--|---|--|
| A.D. 1871. c. March. d. h. m. 9 3 14 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov DEC | d. h. m. 9 9 47 7 22 31 9 11 15 7 23 59 7 12 43 {6 1 27 {20 19 49 5 14 11 4 2 55 2 15 39 {2 4 28 31 17 7 30 5 51 29 18 35 | d. h. m. 9 2 45 7 15 55 9 6 12 7 21 23 7 13 9 6 4 47 20 15 56 5 19 37 4 9 13 2 21 30 2 8 48 81 19 36 80 6 21 29 17 11 | A.D. 1874. F. March. d. h. m. 8 20 41 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | d. h. m. 6 0 57 4 13 41 6 2 25 { 4 15 9 {19 9 31 4 3 58 2 16 37 { 2 5 21 {31 18 5 30 6 49 28 19 33 {13 13 55 {28 8 17 26 21 1 26 9 45 | d. h. m. 6 10 28 4 22 5 6 8 1 4 16 41 19 18 15 4 0 45 2 9 4 1 18 42 31 6 32 29 20 56 28 18 44 18 9 24 28 7 57 27 2 21 26 19 84 |
| 1872. B.A. 8 9 8 | JAN. FEB. MAR. AFRIL O MAY JUNE JULY AUG. SEPT. OUT. O NOV. DEC. | 28 28 0 28 11 44 22 0 28 20 18 12 20 1 56 3 20 18 18 14 40 | 1 | 1875. E. 9 2 80 | JAN FEB MAR APRIL MAY . JUNE . AUG ASET COCT NOV. DEC. | 18 4 22 17 17 6 | 19 2 15 17 15 24 17 7 84 16 2 2 |
| · 1873. 6. 8 14 52 | JAN. FEB. MAR. APRII O MAY JUNE JULY AUG. SEPT. O NOV. DEC. | . 15 4 52 . 16 17 86 . 15 6 20 . 14 19 4 . 18 7 48 . 12 20 32 . 11 9 16 . 9 22 0 . 9 10 4 . 24 5 . 7 28 28 | 15 6 8 16 15 49 15 1 25 2 30 18 42 14 11 40 12 28 19 11 4 7 9 20 40 4 9 18 83 6 23 17 56 8 5 56 | 8 8 19 | JAN. FRE. O MAR. APRII MAY JUNE JULY AUG. O SEPT. OCT. NOV. DEC. | 27 14 2 18 8 46 11 21 86 11 10 14 9 22 55 9 11 42 (8 0 2 (22 18 4 6 18 1 6 1 5 | 2 18 8 55 4 27 8 41 6 18 22 88 12 9 24 11 17 48 8 10 0 47 9 7 26 6 7 14 51 8 22 28 45 0 6 0 5 4 2 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full Ecl.) |
|-------------------------------|------------------------------------|---|--|---|------------------------------------|--|--|
| A.D. 1877. B. March. | Jan Feb | d. h. m. 2 16 7 1 4 51 | d. h. m. 2 15 58 1 11 16 | A.D. 1880. F.E. March. d. h. m. | Jan Feb | d. h. m. 29 20 1 28 8 45 | d. h. m. 29 18 27 28 2 54 |
| d. h. m. 8 14 7 | MAR | 15 23 13 2 17 35 1 6 19 30 19 3 30 7 47 | 15 21 51 3 4 58 1 19 57 { 1 7 58 { 30 17 8 | 8 7 84 | MAR APRIL MAY. O June. | 28 21 29 27 10 18 26 22 57 10 17 19 25 11 41 | 28 17 28 27 8 89 27 0 17 10 16 17 25 15 85 |
| | JUNE . JULY . O Aug | 28 20 31 28 9 15 (12 3 37 26 21 59 | 29 0 41 28 7 38 12 1 44 26 15 2 | | July . Aug Sept Oct | 25 0 25 28 18 9 22 1 58 21 14 87 | 25 5 59 28 19 8 22 7 9 21 18 26 |
| | SEPT OCT Nov DEC | 25 10 48 24 23 27 23 12 11 28 0 55 | 24 23 50 24 10 49 23 0 26 22 16 35 | | Nov O Dec | 20 8 21 4 21 48 19 16 5 | 20 5 28 4 18 2 19 16 14 |
| 1878. A. 8 19 56 | Jan O Feb Mar | 21 13 40 { 5 8 2 20 2 24 21 15 8 | 21 10 36 5 13 58 20 5 14 21 23 7 | 1881. D. 8 13 23 | JAN FEB MAR APRIL | 18 4 49 16 17 88 18 6 17 16 19 1 | 18 8 5 16 18 58 18 1 7 16 18 0 |
| | APRIL MAY . JUNE . JULY . | 20 3 52 19 16 36 18 5 20 17 18 4 | 20 15 2 20 4 21 18 15 8 17 23 59 | | MAY . O JUNE . JULY . | 16 7 45 81 2 7 14 20 29 14 9 18 | 16 1 59 81 9 28 14 16 15 14 7 80 |
| | O Aug Sept Oct | 1 12 26 16 6 48 14 19 32 14 8 16 | 1 2 41 16 7 57 14 16 1 14 1 0 | | Aug Sept Oct Nov | 12 21 57 11 10 41 10 28 25 9 12 9 | 12 28 9 11 14 85 11 5 11 9 18 47 |
| 1879. G. | Nov DEC JAN FEB | 12 21 0 12 9 44 10 22 28 9 11 12 | 12 11 83 11 23 56 10 14 12 9 6 5 | 1882. c. | DEC | 9 0 58 7 18 88 | 28 19 80 9 7 21 7 18 54 |
| 9 1 45 | Mar April May. June. | 10 23 56 9 12 40 9 1 24 7 14 8 | 10 22 58 9 16 2 9 8 12 7 22 48 | 8 19 12 | MAR APRIL MAY . | 6 2 22 7 15 6 6 8 50 5 16 84 | 6 5 88 7 15 12 6 0 80 5 10 5 |
| | AUG SEPT OCT Nov | 7 2 52 5 15 36 4 4 20 3 17 4 | 7 11 24 5 22 14 4 7 56 8 17 18 | | JUNE. JULY. AUG | 4 5 18 8 18 2 { 2 6 46 81 19 80 80 8 14 | 8 20 45 8 9 10 1 28 85 81 15 44 80 8 49 |
| | DEC. C | 1 18 32 | 16 18 44 | | Oct Nov Dec | 29 20 58 28 9 42 27 22 26 | 80 1 50 28 17 52 23 8 18 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|---|------------------------|---|---|---|---------------------------|--|---|
| A.D. 1883. B. March. d. h. m. | Jan Feb | d. h. m. 26 11 11 24 23 55 | d. h. m. 26 20 51 25 7 30 | A.D. 1886. E. March. d. h. m. | Jan Feb | d. h. m. 23 2 21 21 15 5 | d. h. m. 28 5 40 22 0 16 |
| 9 1 0 | MAR O APRIL | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 23 16 34 10 13 37 25 0 37 | 8 18 27 | Mar April May . | 28 3 49 21 16 83 21 5 17 | 28 16 35 22 5 57 21 16 27 |
| | MAY. JUNE. JULY. | 24 14 7 28 2 51 22 15 85 | 24 8 30 22 17 13 22 3 47 | | JUNE . JULY . Aug | 19 18 1 19 6 45 17 19 29 | 20 0 45 19 7 56 17 15 4 |
| | Aug Sept O | $ \begin{array}{c ccccc} 21 & 4 & 19 \\ 19 & 17 & 8 \\ 4 & 11 & 25 \\ 19 & 5 & 47 \end{array} $ | 20 16 54 19 8 40 4 8 58 19 2 30 | | Sept Oct Nov Dec | 16 8 18 15 20 57 14 9 41 13 22 25 | 15 23 12 15 9 11 13 21 31 18 12 24 |
| 1004 | Nov Dec | 17 18 31 17 7 15 | 17 21 10 17 15 17 | 1887. D. | Jan | $ \begin{cases} 12 & 11 & 9 \\ 27 & 5 & 81 \end{cases} $ | 12 5 28 27 12 57 |
| 1884. a.c. 8 6 49 | JAN FEB MAR | 15 19 59 14 8 43 (14 21 27 29 15 49 | 16 7 38 14 21 27 15 8 86 29 18 52 | 9 0 16 | FEB MAR APRIL | 10 28 58 12 12 37 11 1 21 | 10 28 45 12 18 1 11 10 58 |
| | APRIL MAY. June. | 18 10 11 12 22 55 11 11 89 | 18 17 82 18 0 58 11 7 52 | | MAY . June . July . | 10 14 5 9 2 49 8 15 88 | 11 1 80 9 18 81 8 23 20 |
| | July . Aug Sept | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 10 15 19 9 0 26 7 12 7 23 0 15 | | Aug Sept | 28 9 55 7 4 17 5 17 1 5 5 45 | 22 28 10 7 7 46 5 15 51 5 0 80 |
| | OCT Nov DEC | 7 14 85 6 8 19 5 16 8 | 7 2 54 5 20 27 5 15 42 | | Nov Dec | 8 18 29 8 7 18 | 8 10 28 2 21 52 |
| 1885. F. 8 12 88 | JAN FEB MAR | 4 4 48 2 17 82 7 4 6 16 | 4 11 5 8 4 56 4 20 8 | 1888. C.B. | JAN. C | 81 8 41 | 17 1 51 81 2 2 |
| | APRIL MAY | 19 0 88 2 19 0 | 16 18 59 8 8 15 2 17 83 | 8 6 5 | MAR. APRIL | 80 10 10 28 22 54 | 80 11 6 29 8 88 |
| | JUNE . JULY . Aug. | 29 21 56 | $ \begin{cases} 1 & 1 & 9 \\ 80 & 7 & 48 \\ 29 & 14 & 45 \\ 27 & 28 & 1 \end{cases} $ | | June O July | . 27 0 22 {11 18 44 | 27 8 44 4 11 8 8 3 26 20 84 |
| | SEPT. | $\begin{cases} 12 & 5 & 2 \end{cases}$ | 12 10 19 26 9 86 25 28 7 | | Aug. Sept. Oct. | . 28 14 84 . 28 8 18 | 28 16 89 28 2 22 |
| | Nov. | 25 0 52 24 18 86 | 24 15 84 24 10 12 | | Nov. Dec. | . 21 16 2 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|---|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1889. | | d. h. m. | d. h. m. | A.D. 1892. | | d. h. m. | d. h. m. |
| Α. | 0 | f 4 23 8 | 5 7 54 | E.D. | JAN | 17 8 41 | 17 19 11 |
| | JAN | 19 17 30 | 19 11 27 | March. | FEB | 15 21 25 | 16 6 41 |
| March. $d. h. m.$ | FEB | 18 6 14 | 18 0 8 | d. h. m. 8 5 20 | MAR. | 16 10 9 | 16 16 20 |
| 8 11 53 | MAR. | 19 18 59 | 19 13 49 | 0 0 20 | APRIL | (14 22 58 | 15 0 37 |
| | APRIL | 18 7 43 | 18 4 26 | | O | 29 17 15 | 30 1 4 |
| | MAY. | 17 20 27 | 17 19 45 | | - | | 14 8 17 |
| | JUNE . | 16 9 11 | | | MAY. | 14 11 37 | |
| | | | {16 11 14 {30 23 22 | | June. | 13 0 21 | 12 16 18 |
| | O T | 13 | | | July. | 12 13 5 | 12 1 45 |
| | JULY. | 15 21 55 | 16 2 14 | | Aug | 11 1 49 | 10 13 31 |
| | Aug | 14 10 39 | 14 16 14 | | SEPT. | 9 14 33 | 9 4 3 |
| 1 | SEPT | 12 23 23 | 13 5 5 | | Ост | [9 8 17 | 8 21 5 |
| | Ocr | 12 12 7 | 12 16 57 | | 0 | 123 21 39 | 23 17 57 |
| | Nov | 11 0 51 | 11 4 17 | | Nov | 7 16 1 | 7 15 41 |
| | DEC | 10 13 35 | 10 15 17 | | DEC | 7 4 45 | 7 10 26 |
| 1890. | JAN | 9 2 19 | 9 2 9 | | | | |
| G. | FEB. | 7 15 3 | 7 12 47 | 1893. | JAN | 5 17 29 | 6 3 54 |
| 8 17 42 | MAR. | 9 8 47 | 8 23 34 | c. | FEB. | 4 6 13 | 4 19 3 |
| 0 11 22 | APRIL | 7 16 31 | | 8 11 9 | MAR. | 5 18 57 | 6 7 27 |
| | | 1 | 7 10 44 | 0 == 0 | APRIL | 4 7 41 | 4 17 17 |
| | MAY. | $\begin{cases} 7 & 5 & 15 \\ 21 & 23 & 37 \end{cases}$ | 6 22 51 | | MAY. | 3 20 25 | 4 1 14 |
| | _ | | 22 9 12 | ļ | JUNE . | 2 9 9 | 2 8 10 |
| | June. | 5 17 59 | 5 12 16 | | JUNE . | (1 21 53 | 1 15 9 |
| | JULY. | 5 6 43 | 5 3 0 | | JULY . | 81 10 37 | 30 23 16 |
| | Aug | 3 19 27 | 3 18 38 | [] | A | 29 23 21 | 29 9 38 |
| | SEPT | 2 8 11 | 2 10 28 | | Aug | 28 12 5 | 27 22 55 |
| | Oct | ∫ 1 20 55 | 2 1 49 | 1 | SEPT | | 27 15 14 |
| | | 181 9 39 | 31 16 14 |]] | Oct | 28 0 49 | 1 |
| | . 0 | $\begin{cases} 15 & 4 & 1 \end{cases}$ | 14 15 47 | li | Nov | 26 13 33 | 26 9 58 26 5 28 |
| | Nov. | | 30 5 33 | | DEC | 26 2 17 | 26 5 28 |
| | DEC. | 29 11 7 | 29 17 42 | 1 | | | |
| 1891. | JAN. | 27 23 52 | 28 4 43 | 1894. | JAN | 24 15 2 | 25 0 18 |
| F. | FEB. | 26 12 36 | 26 14 40 | В. | FEB | 23 3 46 | 23 16 52 |
| 8 23 31 | MAR. | 28 1 20 | 27 23 54 | 1 | 0 | ∫ 9 22 8 | 9 16 44 |
| | APRIL | | 26 9 0 | 8 16 58 | MAR. | ₹24 16 80 | 25 6 27 |
| | 0 | (11 8 26 | | | APRIL | 23 5 14 | 23 17 3 |
| | MAY | K | | | MAY . | 22 17 58 | 23 1 19 |
| | JUNE | | | | JUNE . | 21 6 42 | 21 8 14 |
| | JULY | | 1 | 1 | JULY . | 20 19 26 | 20 14 56 |
| | Aug. | 1 | | | Aug. | 19 8 10 | 18 22 28 |
| | SEPT. | | | | 0 | 3 2 32 | 8 6 55 |
| | OCT. | . 20 18 28 | | | SEPT. | 17 20 54 | 17 7 55 |
| | 001. | 4 12 50 | | | Ост. | 17 9 38 | 16 19 59 |
| | Nov. | $\left\{\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | | Nov. | 15 22 22 | |
| 1 | DEC. | 10 10 70 | | | DEC. | . 15 11 6 | 15 4 44 |
| | DEC, | . 10 10 00 | , 10 0 50 | | | | |
| | 1 | | 1 | 11 | 1 | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. Tull Ecl.) | Frue New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|--|---|--|---|---|--|
| A.D. 1895. A. March. d. h. m. 8 22 46 | MAR APRIL MAY. JUNE. JULY. AUG | 13 23 50 (12 12 34 (27 6 56 14 1 18 | d. h. m. 13 23 53 12 19 0 27 6 20 14 12 29 13 3 18 12 15 8 11 0 26 10 8 6 8 15 14 23 8 80 6,22 55 6 8 2 4 19 15 4 8 52 8 0 51 1 18 30 | A.D. 1898. D. March. d. h. m. 8 16 13 | JAN FEB MAR APRIL MAY . JUNE . O . JULY . AUG SEPT OCT NOV | d. h. m. 10 15 0 9 3 44 10 16 28 9 5 12 8 17 56 7 6 40 22 1 2 6 19 24 5 8 8 3 20 52 3 9 86 1 22 20 (1 11 4 16 5 26 30 23 48 29 12 82 | d. h. m. 10 9 51 8 21 54 10 10 46 9 0 87 8 15 28 7 6 44 21 23 48 6 22 8 5 12 46 4 2 27 3 15 5 2 2 55 1 14 14 16 1 59 31 1 13 |
| 8 4 85 | MAR APRIL MAY. JUNE. JULY. O AUG SEPT OCT Nov DEC | 16 15 45 { 2 10 7 \$1 22 51 \$0 11 35 \$0 0 19 28 13 8 28 1 47 {11 20 9 26 14 81 25 8 15 24 15 59 28 4 48 22 17 27 | 16 22 30 2 12 48 50 21 57 80 21 57 80 11 16 28 22 12 28 7 21 11 9 80 26 15 41 25 0 10 24 9 32 22 20 17 22 8 88 | c. 8 22 2 | FEB MAR APRIL MAY . O JUNE JULY AUG. SEPT. OCT. NOV. O DEC. | 28 1 16 29 14 1 28 2 45 27 15 29 {11 9 51 26 4 18 25 16 57 24 5 41 | 3 25 22 44 25 12 1 24 5 59 5 22 21 55 9 22 18 9 3 21 8 16 5 5 8 48 |
| 1897. E. 8 10 24 | JAN FEB APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 14 12 4 14 0 48 | 19 22 52 19 14 50 18 5 26 17 18 18 16 5 85 14 15 48 14 1 41 2 12 11 48 6 11 22 81 | 3 | | . 17 22 5 16 11 8 . (16 0 1 80 18 4 . 14 18 . 14 1 4 . 12 14 8 . 11 8 1 . 10 15 5 9 4 4 | 6 17 14 6 0 17 28 28 4 16 8 17 8 15 17 24 8 15 5 57 2 14 8 41 6 18 15 58 10 12 6 20 4 10 22 44 8 10 16 15 9 9 4 47 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------|----------------------------|-------------|------------------------------------|------------------------------------|
| A.D. 1901. | | d. h. m. | d. h. m. | A.D. 1904. | | d. h. m. | d. h. m. |
| G. | JAN | 7 6 10 | 7 16 58 | D.C. | JAN | 4 21 20 | 4 18 13 |
| March. $d. h. m.$ | FEB | 5 18 54 | 6 5 29 | March. | FEB | 3 10 4 | 3 13 27 |
| 8 9 39 | MAR. | 7 7 38 | 7 15 54 | d. h. m. 8 3 6 | Mar. | 3 22 48 | 4 7 47 |
| | APRIL | 5 20 22 | 6 0 36 | | APRIL | 2 11 32 | 2 23 55 |
| 1 | MAY. | 5 9 6 | 5 8 17 | | 221 1121 | (2 0 16 | 2 13 11 |
| | June. | 3 21 50 | 3 15 51 | | MAY. | 31 13 0 | 31 23 39 |
| | JULY. | 3 10 34 | 3 0 21 | | June . | 30 1 44 | 30 8 3 |
| | | (1 23 18 | 1 10 48 | | July. | 29 14 28 | 29 15 26 |
| , | Aug | 31 12 2 | 30 23 58 | | | 28 3 12 | 27 22 53 |
| | SEPT | 30 0 46 | 29 15 57 | | AUG SEPT | 26 15 56 | 26 7 21 |
| | | | | | | 26 4 40 | 25 17 35 |
| | Oct | 14 19 8 | 14 17 43 29 10 4 | | Oct | 24 17 24 | 24 6 1 |
| | Nov. | 1 ' | | | Nov | | 23 20 48 |
| | T | 28 2 14 | 28 5 5 | 1 | DEC | 24 6 8 | 45 20 48 |
| | DEC | 27 14 58 | 27 23 31 | | | | , |
| 1902. | JAN | 26 3 43 | 26 15 58 | 1905. | JAN | 22 18 58 | 22 13 83 |
| F. | FEB. | 24 16 27 | 25 5 48 | В. | 0 | 6 13 15 | 6 21 40 |
| 8 15 28 | MAR. | 26 5 11 | 26 16 40 | | FEB | 21 7 37 | 21 7 25 |
| 0 10 10 | | (9 23 33 | 9 20 59 | 8 8 55 | MAR. | 22 20 21 | 23 1 14 |
| | O April | 24 17 55 | 25 1 19 | | APRIL | 21 9 5 | 21 17 50 |
| | MAY. | 24 6 39 | 24 8 32 | | MAY. | 20 21 49 | 21 8 21 |
| | JUNE. | 22 19 23 | 22 15 16 | | JUNE . | 19 10 33 | 19 20 28 |
| , | | | | | JULY . | 18 23 17 | 19 6 33 |
| | JULY . | 22 8 7 20 20 51 | 21 22 41 | | 0 | (2 17 39 | 2 6 8 |
| | _ | | 20 7 50 | | Aug | 17 12 1 | 17 15 22 |
| | SEPT | 19 9 35 | 18 19 40 | | SEPT | 16 0 45 | 15 28 58 |
| | 0 | 4 3 57 | 4 8 21 | | Ocr | 15 13 29 | 15 8 56 |
| | Nov. | (18 22 19 | 18 10 35 | | Nov. | 14 2 13 | 13 19 6 |
| | | 17 11 3 | 17 4 17 | | DEC. | 13 14 57 | 18 6 89 |
| | DEC | 16 23 47 | 16 23 40 | | | | |
| 1903. | JAN | 15 12 32 | 15 19 6 | 1906. | JAN | (12 3 41 | 11 19 42 |
| E | FEB | 14 1 16 | 14 12 54 | A. | O O | 26 22 3 | 27 10 20 |
| 8 21 17 | MAR. | (15 14 0 | 1 | | FEB. | 10 16 25 | 10 10 10 |
| | 0 | 30 8 22 | | 8 14 44 | MAR. | 12 5 9 | 12 1 48 |
| | APRIL | 14 2 44 | 14 15 54 | 0 17 44 | APRIL | 10 17 53 | 10 18 5 |
| | MAY. | 13 15 28 | 14 1 10 | | MAY . | 10 17 35 | 10 10 16 |
| | JUNE . | 12 4 12 | 12 8 36 | | _ | 8 19 21 | 9 1 38 |
| | JULY . | 11 16 56 | | | JUNE . | | |
| | A.UG. | | | | JULY . | 8 8 5 | 8 15 27 |
| | SEPT | (81824 | | | 1 | (23 2 27 | 22 15 21 |
| | 0 | 23 12 46 | | | Aug | 6 20 49 | 7 8 41 |
| | Oct | 8 7 8 | | | SEPT | 5 9 83 | 5 14 36 |
| | Nov. | 6 19 52 | | | Ocr | 4 22 17 | 5 0 50 |
| | | 1 | 1 | 11 | Nov | 3 11 1 | 3 11 2 |
| | DEC. | 6 8 36 | 5 23 41 | H | DEC | 2 23 45 | 2 21 31 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl |
|----------------------------|--------|--|------------------------------|----------------------------|----------|------------------------------------|----------------------------------|
| A.D. 1907. | | d. h. m. | d. h. m. | A.D. 1910. | | d. h. m. | d. h. m |
| Gr. | | (1 12 29 | 1 8 32 | c. March. | JAN | 27 16 24 | 28 3 47 |
| | JAN. O | 316 6 51 | 16 16 1 | d. $h.$ $m.$ | FEB. | 26 5 8 | 26 15 8 |
| | | (31 1 13 | 30 20 4 | 8 13 59 | MAR | 27 17 52 | 28 0 29 |
| March. | FEB | | | | APRIL | 26 6 36 | 26 8 25 |
| d. h. m. 8 20 32 | Mr.n | f 1 13 58 | 1 8 16 | | 0 | (11 0 58 | 11 7 46 |
| 0 20 02 | MAR | 131 2 42 | 30 21 19 | | MAY . | 25 19 20 | 25 15 45 |
| | APRIL | 29 15 26 | 29 11 22 | | JUNE . | 24 8 4 | 23 23 31 |
| | MAY. | 29 4 10 | 29 2 17 | | JULY. | 23 20 48 | 23 8 50 |
| | JUNE . | 27 16 54 | 27 17 40 | 18 | Aug. | 22 9 32 | 21 20 37 |
| | 0 | (12 11 16 | 12 6 47 | | SEPT. | 20 22 16 | 20 11 16 |
| | July. | 27 5 38 | 27 8 51 | | Oct | 20 11 0 | 20 4 3 |
| | Aug. | 25 18 22 | 25 28 18 | | | (4 5 22 | 4 2 3 |
| | SEPT. | 24 7 6 | 24 12 45 | | O Nov | 18 23 44 | 18 28 2 |
| | Oct. | 23 19 50 | 24 1 14 | | | | |
| | | 22 8 34 | | | DEC | 18 12 28 | 18 18 3 |
| | Nov. | | 1 | | | | |
| | DEC | 21 21 18 | 22 0 15 | 1911. | JAN | 17 1 12 | 17 12 |
| 1908. | JAN | 20 10 8 | 20 11 2 | В. | FEB | 15 18 56 | 16 8 1 |
| F.E. | FEB | 18 22 47 | 18 21 26 | 8 19 48 | MAR. | 17 2 41 | 17 15 8 |
| 8 2 21 | MAR. | 19 11 31 | 19 7 39 | | APRIL | 15 15 25 | 16,11 |
| | APRIL | 18 0 15 | 17 18 15 | | MAY . | 15 4 9 | 15 8 5 |
| | MAY . | 17 12 59 | 17 5 49 | | June . | 13 16 58 | 13 15 3 |
| | JUNE . | 16 1 43 | 15 18 54 | | JULY. | 13 5 37 | 12 22 3 |
| | JULY. | 15 14 27 | 15 9 82 | | Aug. | 11 18 21 | 11 6 4 |
| | | | | | SEPT | 10 7 5 | 9 17 1 |
| | Aug | 14 8 11 | 1 | | Ocr | 9 19 49 | 9 6 8 |
| | SEPT | 12 15 55 | 12 17 85 | | Nov. | 8 8 88 | 7 28 |
| | Ocr | 12 4 89 | 12 9 81 | | DEC. | 7 21 17 | 7 17 5 |
| | Nov | 10 17 28 | 11 0 82 | | Dac | 1 22 21 | |
| | DEC | 10 6 7 | 10 14 15 | | , | | |
| 1909. | JAN | 8 18 51 | 9 2 83 | 1912. | JAN | 6 10 1 | 6 18 2 |
| D. | FEB | 7 7 85 | 7 18 26 | A.G. | FEB | 4 22 45 | 5 8 1 |
| 8 8 10 | MAR. | 8 20 19 | 8 28 4 | 8 1 37 | MAR. | 5 11 29 | 6 0 4 |
| | APRIL | 7 9 8 | 7 7 51 | | 0 | 20 5 51 | 20 0 4 |
| | MAY. | 6 21 47 | 6 16 28 | | APRIL | 4 0 18 | 4 14 |
| | 0 | 21 16 9 | 22 8 49 | | MAY . | 8 12 57 | 4 08 |
| | June . | 5 10 81 | 5 1 51 | | JUNE . | 2 1 41 | 2 8 4 |
| | July . | 4 28 15 | 4 12 54 | | T | ſ 1 14 25 | 1 15 8 |
| | 1 . | 8 11 59 | 8 2 12 | | JULY. | f81 8 8 | 89 22 2 |
| | Aug. | 2 0 43 | | | A.ug | 29 15 58 | 29 6 1 |
| | SEPT | | 1 | | 0 | (18 10 15 | 13 14 1 |
| | Ocr | $\begin{cases} 1 & 18 & 27 \\ 21 & 2 & 11 \end{cases}$ | 1 11 8 | | SEPT | 28 4 87 | 27 15 5 |
| | | 81 2 11 | | | Ocr. | 27 17 21 | 27 4 |
| | 0 | {14 20 88 | | | Nov. | 26 6 5 | 25 19 1 |
| | Nov | 29 14 55 | | | DEC. | 25 18 49 | 25 12 4 |
| | DEC | 29 8 89 | 29 14 8 | | | 20 20 20 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|-----------|------------------------------------|-----------------------------------|----------------------------|---|------------------------------------|-----------------------------|
| A.D. 1913. | | d. h. m. | d. h. m. | A.D. 1916. | *************************************** | d. h. m. | d. h. m. |
| F. | JAN | 24 7 34 | 24 7 46 | C.B. | 0 | 7 4 22 | 7 10 52 |
| | FEB | 22 20 18 | 23 2 36 | | JAN | 21 22 44 | 21 18 39 |
| March. | 0 | (9 14 40 | 9 14 43 | March. $d. h. m.$ | FEB | 20 11 28 | 20 6 16 |
| d. h. m. 8 7 25 | MAR. | 24 9 2 | 24 19 50 | 8 0 52 | MAR | 21 0 12 | 20 18 33 |
| 0 , 20 | APRIL | 22 21 46 | 23 10 31 | 0 0 0 2 | APRIL | 19 12 56 | 19 7 47 |
| | MAY. | 22 10 30 | 22 22 18 | | MAY. | 19 1 40 | 18 22 5 |
| | JUNE. | 20 23 14 | 21 7 40 | | June . | 17 14 24 | 17 18 12 |
| | July. | 20 11 58 | 20 15 32 | • | 0 | (2 8 46 | 279 |
| | Aug. | 19 0 42 | 18 22 58 | | JULY. | 17 8 8 | 17 4 36 |
| | ĺ | (2 19 4 | 2 15 22 | | Aug. | 15 15 52 | 15 19 39 |
| | O Sept | I J I | 17 7 0 | | SEPT. | 14 4 36 | 14 9 58 |
| | Oct | 17 13 26 | 16 16 25 | | Oct. | 13 17 20 | 13 28 8 |
| | Nov. | | | | Nov. | 12 6 4 | 12 11 30 |
| | | 15 14 54 | 15 3 47 | | | (11 18 48 | 11 28 9 |
| | DEC | 15 3 38 | 14 17 24 | | DEC | 26 13 10 | 26 10 1 |
| | l | | | | 0 | (20 15 10 | 20 10 1 |
| 1914. | JAN | 13 16 23 | 13 9 7 | 1917. | JAN | 10 7 33 | 10 10 11 |
| E. | FEB | ∫12 5 7 | 12 2 19 | Α. | FEB | 8 20 17 | 8 20 87 |
| | 0 | 26 23 29 | 27 7 3 | 8 6 41 | MAR | 10 9 1 | 10 6 89 |
| 8 13 14 | MAR | 13 17 51 | 13 20 3 | | APRIL | 8 21 45 | 8 16 43 |
| | APRIL | 12 6 35 | 12 13 13 | | MAY . | 8 10 29 | 8 8 27 |
| | MAY . | 11 19 19 | 12 4 46 | | JUNE . | 6 23 18 | 6 15 32 |
| | June . | 10 8 3 | 10 18 7 | | 0 | 21 17 85 | 22 0 6 |
| | JULY. | 9 20 47 | 10 5 16 | | JULY . | 6 11 57 | 6 5 17 |
| | Aug | 8 9 31 | 8 14 48 | | Aug | 5 0 41 | 4 20 87 |
| | 0 | 23 3 53 | 22 16 28 | | SEPT. | 3 13 25 | 8 12 55 |
| | SEPT | 6 22 15 | 6 23 34 | | Oct | 8 2 9 | 8 5 28 |
| | Oct | 6 10 59 | 6 8 29 | | Nov. | 1 14 58 | 1 21 18 |
| | Nov | 4 23 43 | 4 18 13 | | | 1 8 37 | 1 11 51 |
| | DEC | 4 12 27 | 4 5 6 | | DEC. C | 15 21 59 | 15 12 9 |
| | | | | | | (30 16 21 | 81 1 0 |
| 1915. | JAN. | 3 1 11 | 2 17 21 | 1010 | - | | |
| D, | FEB. | 1 13 55 | 1 6 56 | 1918. G. | JAN | 29 5 5 | 29 12 88 |
| 8 19 3 | MAR. | 1 | i | 11 | FEB | 27 17 49 | 27 22 89 |
| | APRIL | 1 15 23 | 1 | 8 12 30 | MAR. | 29 6 83 | 29 7 84 |
| | | (147 | 1 | 11 | APRIL | 27 19 17 | 27 15 57 |
| 1 | MAY . | 30 16 51 | | 1 | MAY . | 27 8 1 | 27 0 88 |
| 1 | JUNE | (| | | -0 | ∫11 2 23 | |
| | JULY | | | | JUNE. | (25 20 45 | 1 |
| | Aug. | | | | JULY. | i | 24 22 39 |
| | SEPT. | - | | | Aug. | | 28 13 10 |
| | OCT. | | | | SEPT. | | 22 5 50 |
| | Nov. | 1 | | | Oct. | 21 23 41 | |
| | DEC. | 1 | | 1 | Nov. | 20 12 25 | |
| | | | | | DEC. | . 20 1 9 | 20 10 40 |
| 1 | 1 | | | _li | / L | 1 | 1 |

| Moan Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Menn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1919. | | d. h. m. | d. h. m. | A.D. 1922. | | d. h. m. | d. h. m. |
| F. | JAN | 18 18 54 | 19 1 32 | В. | JAN | 15 5 4 | 15 2 12 |
| March. $d. h. m.$ | FEB | 17 2 38 | 17 13 59 | d. h. m. | FEB | 13 17 48 | 13 21 7 |
| 8 18 18 | MAR | 18 15 22 | 19 0 9 | 8 11 45 | MAR | 15 6 32 | 15 15 10 |
| | APRIL | 17 4 6 | 17 8 32 | | APRIL | 13 19 16 | 14 7 7 |
| | MAY . | 16 16 50 | 16 15 52 | | MAY. | 13 8 0 | 18 20 18 |
| | JUNE . | 15 5 34 | 14 23 10 | | JUNE. | 11 20 44 | 12 6 50 |
| | JULY . | 14 18 18 | 14 7 31 | | JULY. | 11 9 28 | 11 15 24 |
| | Aug | 13 7 2 | 12 17 57 | | Aug | 9 22 12 | 9 28 4 |
| | SEPT | 11 19 46 | 11 7 18 | | SEPT | 8 10 56 | 8 6 51 |
| | Ocr | (11 8 30 | 10 23 23 | | Ост | 7 23 40 | 7 15 89 |
| | 0 | 26 2 52 | 26 1 56 | | Nov | 6 12 24 | 6 2 6 |
| ! | Nov | 9 21 14 | 9 17 48 | | DEC | 6 1 8 | 5 14 37 |
| 1 | DEC | 9 9 58 | 9 13 5 | | | | |
| | | | | 1923. | JAN | 4 18 52 | 4 5 12 |
| 1920. | Jan | 7 22 42 | 8 7 40 | A. | 773 | (8 2 36 | 2 21 82 |
| E.D. | FEB | 6 11 26 | 7 0 10 | | T.EB. | 17 20 58 | 18 6 14 |
| 8 0 7 | MAR | 7 0 10 | 7 13 48 | 8 17 34 | MAR. | 4 15 20 | 4 14 55 |
| | APRIL | 5 12 54 | 6 0 8 1 | 0 11 9# | | 8 4 4 | 3 8 18 |
| | 0 | 20 7 16 | 20 4 0 | | MAY. | 2 16 48 | 8 0 38 |
| | MAY. | 5 1 88 | 5 8 59 | | MIXX. | (1 5 82 | 1 7 |
| | JUNE . | 8 14 22 | 3 16 1 | | JUNE . | 80 18 16 | |
| | July. | 8 8 6 | 2 22 41 | | T | 80 7 0 |) 1 0 2 4 |
| | A | (1 15 50 | 1 6 7 | | JULY . | (14 1 22 | 1 |
| | A.UG. | (81 4 84 | 80 15 28 | | 1 0 | 28 19 44 | |
| | SEPT | 29 17 18 | 29 8 20 | H | A.UG | 27 8 28 | |
| 1 | 0 | (14 11 40 | 14 16 32 | | SEPT | 26 21 12 | 1 |
| } | Oct | 29 6 2 | 28 18 25 | | Nov. | 25 9 56 | |
| | Nov | 27 18 46 | 27 12 12 | 1 | | 04 00 40 | |
| | DEC | 27 7 80 | 27 7 87 | | DEC. | 24 22 40 | 29 10 21 |
| | _ | | | | _ | | |
| 1921. c. | JAN. | 25 20 14 | 26 2 58 | 1924. G.F. | JAN. | 28 11 24 | |
| | FEB | 24 8 59 | 24 20 40 | W-F: | _ 0 | 7 5 46 | |
| 8 5 56 | MAR | 25 21 48 | 26 11 85 | | FEB. | 22 0 9 | |
| | 0 | 9 16 5 | 9 10 15 | 7 28 28 | MAR. | 22 12 58 | |
| | APRIL | 24 10 27 | 24 28 24 | | APRIL | 21 1 87 | 1 |
| | MAY . | 23 28 11 | 24 8 34 | il | MAY . | 20 14 21 | |
| | JUNE. | 22 11 55 | 22 15 59 | | JUNE . | | |
| | JULY. | 22 0 89 | 21 22 47 | | JULY . | 18 15 49 | |
| | Aug | 20 18 28 | 20 6 8 | | 0 | 2 10 11 | |
| | SEPT | 19 2 7 | 18 14 45 | | Aug. | 17 4 85 | |
| | 0 | 3 20 29 | 4 1 26 | | SEPT. | | |
| | Oct | (18 14 51 | 18 1 44 | | Oor. | 15 6 1 | |
| | Nov | 17 8 85 | 16 15 28 | } | Nov. | 18 18 45 | |
| | DEC | 16 16 19 | 16 7 52 | | DEC. | 18 7 29 | 18 6 80 |
| | | | 1 | | | 1 | <u> -</u> |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------------|------------------------------------|------------------------------|---|--------|------------------------------------|---------------------|
| A.D. 1925. | | d. h. m. | d. h. m. | A.D. 1928. | | d. h. m. | d. h. m. |
| E. | JAN | (11 20 14 | 11 17 27 | B.A. | JAN | 9 11 24 | 9 22 38 |
| | 0 | 26 14 36 | 27 0 3 | March. | FEB | 8 0 8 | 8 12 18 |
| d. $h.$ $m.$ | FEB | 10 8 58 | 10 4 39 | $egin{array}{ccccc} d. \ h. \ m. \ 7 \ 22 \ 38 \end{array}$ | MAR | 8 12 52 | 8 23 29 |
| 8 5 11 | MAR | 11 21 42 | 11 16 18 | | APRIL | 7 1 36 | 7 8 30 |
| 1 | APRIL | 10 10 26 | 10 4 44 | | MAY. | (61420 | 6 16 6 |
| | MAY. | 9 23 10 | 9 18 14 | | 0 | 21 8 42 | 21 14 23 |
| 1 | June. | 8 11 54 | 8 8 50 | | June. | 5 3 4 | 4 23 11 |
| | JULY. | (8 0 38 | 8 0 8 | | JULY . | 4 15 48 | 4 6 48 |
| 1 | 0 | 22 19 0 | 22 14 17 | | Aug. | 3 4 32 | 2 16 3 |
| | Aug | 6 13 22 | 6 15 34 | | SEPT | 1 17 16 | (1 352 |
| | SEPT | 5 2 6 | 5 6 30 | | ~~ | (1 6 0 | 30 18 41 |
| | Oct. | 4 14 50 | 4 20 33 | | Ocr | 30 18 44 | 30 12 13 |
| | Nov. | 3 3 34 | 3 9 38 | | _ | (14 13 6 | 14 11 24 |
| | DEC. | 2 16 18 | 2 21 49 | | Nov. | 29 7 28 | 29 7 23 |
| | DEC | 2 10 10 | 2 21 E0 | | DEC. | 28 20 12 | 29 2 36 |
| | | (152 | 1 9 12 | | DEC | 20 20 22 | 00 |
| 1926. | JAN | 30 17 46 | 30 19 51 | | _ | 07 0 70 | 07 00 10 |
| D. | FEB | | | 1929. | JAN. | 27 8 56 | 27 20 19 |
| | | (1 6 30 | 1 5 53 | | FEB | 25 21 40 | 26 11 24 |
| 8 11 0 | MAR. | 30 19 14 | | 8 4 27 | MAR. | 27 10 24 | 27 23 28 |
| | APRIL | 29 7 58 | 29 1 39 | | APRIL | 25 23 8 | 26 8 52 |
| | MAY. | 28 20 42 | 28 12 44 | | MAY . | 25 11 52 | 25 16 23 |
| | JUNE . | 27 9 26 | 27 1 30 | | June . | 24 0 36 | 23 23 3 |
| | JULY. | 26 22 10 | | | JULY. | 23 13 20 | |
| | Aug. | | | | Aug | 22 2 4 | 21 14 16 |
| | SEPT. | 1 | 1 | | SEPT | 20 14 48 | 20 0 52 19 14 27 |
| | Ocr. | 23 12 22 | 23 17 19 | | Oct. | 20 3 32 | 18 7 1 |
| | Nov. | 22 1 6 | 22 8 52 | İ | Nov. | 18 16 16 | 18 1 48 |
| | DEC. | 01 10 10 | 21 22 57 | | DEC | 18 5 0 | 10 1 40 |
| 1007 | 7 | . 20 2 35 | 20 11 22 | 1930. | JAN | 16 17 44 | 16 21 22 |
| 1927. c. | JAN. FEB. | . 20 2 35 . 18 15 19 | ı | F. | FEB. | 15 6 29 | 15 16 0 |
| 8 16 49 | MAR. | | 1 | 8 10 16 | 1 | (16 19 13 | 17 8 18 |
| 0 10 49 | APRIL | | | 5 10 10 | O | 81 13 35 | 31 8 29 |
| | MAY | | 1 . | | APRIL | 15 7 57 | 15 21 36 |
| | | (1 23 53 | | | MAY . | | 15 7 57 |
| | JUNE | 13 | 1 | | JUNE . | | 13 16 7 |
| | JULY | l` | | 11 | JULY. | 1 | 12 23 8 |
| | AUG. | | 1 | | Aug. | | 11 6 8 |
| | SEPT. | | l. | | SEPT. | | |
| | Ост. | i | 1 | | 0 | 24 17 59 | 1 |
| | Nov. | 1 | 1 | | Oct. | | 9 0 1 |
| | 0 | 26 41 | 1 | 11 | Nov. | | |
| | DEC. | 17 | | 11 | DEC. | 7 13 49 | 1 |
| 1 | | | , U 04 | · | | | |

| Mean Vernal Equinox. | Month. | Mean New | True New | Mean Vernal | 25 | Mean New | True New |
|----------------------------|--------------|---------------|---------------|----------------|--------|---------------|--------------------|
| | | (O Full Ecl.) | (O Full Ecl.) | Equinox. | Month. | (O Full Ecl.) | Mass |
| A.D. 1931. r. | | d. h. m. | d. h. m. | A.D. 1933. | | d. h. m. | d. h. m. |
| March. | JAN | 6 2 34 | 5 20 56 | B. Manala | JAN. | 13 8 55 | |
| d. h. m. 8 16 4 | FEB | 4 15 18 | 4 15 81 | March. | FEB | 11 21 39 | 13 2 3 11 15 13 |
| 8 16 4 | MAR. | 6 4 2 | 6 10 4 | 8 3 42 | MAR | 13 10 23 | 13 5 26 |
| | 0 | 20 22 24 | 20 22 56 | | APRIL | 11 23 7 | 11 20 36 |
| | APRIL MAY | 4 16 46 | 5 8 8 | | MAY. | 11 11 51 | 11 12 17 |
| | | 4 5 80 | 4 17 35 | | JUNE. | 10 0 35 | 10 3 51 |
| | June . | 2 18 14 | 3 5 23 | | JULY. | 9 18 19 | 9 18 39 |
| | JULY. | 2 6 58 | 2 14 55 | | Avg | 8 2 3 | 8 8 13 |
| | A | 81 19 42 | 81 28 2 | | SEPT. | 6 14 47 | 6 20 32 |
| | Aug | 80 8 26 | 30 6 44 | | Ост | 6 3 31 | 6 7 54 |
| | 0 | 14 2 48 | 13 22 23 | | Nov | 4 16 15 | 4 18 47 |
| | SEPT. | 28 21 10 | 28 15 12 | | DEC | 4 4 59 | 4 5 34 |
| | Ocr | 28 9 54 | 28 0 54 | | | | - 001 |
| | Nov | 26 22 88 | 26 12 26 | 1934. | JAN | (2 17 43 | 2 16 25 |
| | DEC | 26 11 22 | 26 1 57 | Α. | 0 | 17 12 5 | 17 18 51 |
| | | | | | FEB. | 1 6 27 | 1 3 21 |
| 1932. | JAN | 25 0 6 | 24 17 17 | 8 9 31 | MAR. | 2 19 11 | 2 14 31 |
| D.C. | FEB | 28 12 50 | 28 10 0 | 1 | | (1 7 55 | 1 2 12 |
| | 0 | 9 7 12 | 9 15 24 | | APRIL | 30 20 39 | 30 14 51 |
| 7 21 58 | MAR | 24 1 81 | 24 8 16 | | MAY. | 30 9 23 | 80 4 42 |
| | APRIL | 22 14 18 | 22 20 4 | | JUNE . | 28 22 7 | 28 19 87 |
| | MAY . | 22 8 2 | 22 11 29 | | 0 | (13 16 29 | 18 14 87 |
| | JUNE. | 20 15 46 | 21 0 55 | | JULY. | 28 10 51 | 28 11 9 |
| | July . | 20 4 80 | 20 12 21 | | Aug. | 26 23 35 | 27 2 36 |
| | Aug | 18 17 14 | 18 22 18 | | SEPT. | 25 12 19 | 25 17 25 |
| | 0 | (2 11 86 | 1 28 84 | | | -0 22 20 | 20 11 20 |
| | SEPT | 17 5 58 | 17 7 88 | | | | |
| | Ост | 16 18 42 | 16 17 4 | | ľ | | |
| | Nov | 15 7 26 | 15 2 58 | | | | |
| | DEC | 14 20 10 | 14 18 58 | | | | |



TABLE

OF

VERNAL EQUINOXES AND NEW MOONS

IN

"NEW STYLE"

From the English Reformation of the Calendar A.D. 1752 to A.D. 1934.

| | , | | |
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| | | • | |
| | | | |

| Mean Vernal | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------|--------|------------------------------|----------------|----------------------------|--------|------------------------------|----------------|
| Equinox. | | (O F uit 1501.)(| - Tun 150) | Equitor. | | | |
| A.D. 1752. | | d. h. m. | d. h. m. | A.D. 1755. | | d. h. m. | d. h. m. |
| | JAN | | | E. March. | JAN | 13 0 12 | 12 15 22 |
| | FEB | | | d. h. m. | FEB | 11 12 56 | 11 7 13 |
| ļ | MAR | | | 21 0 50 | MAR. | ∫13 1 4 0 | 13 0 14 |
| 1 | APRIL | | | | 0 | 127 20 2 | 28 3 7 |
| | MAY. | | | | APRIL | 11 14 24 | 11 17 28 |
| | JUNE. | | | | MAY . | 11 3 8 | 11 9 58 |
| İ | July. | | | | June. | 9 15 52 | 10 0 47 |
| | Aug | | | | JULY. | 9 4 86 | 9 13 34 |
| | SEPT | } | | | Aug | 7 17 20 | 8 0 29 |
| 1 | Oct | 8 3 39 | 7 18 38 | | SEPT | 6 6 4 | 6 10 6 |
| | Nov | 6 16 28 | 6 4 10 | | 0 | 21 0 26 | 20 13 9 |
| | DEC | 6 5 7 | 5 21 83 | | Ост | 5 18 48 | 5 19 18 |
| 1753. | | | | | Nov. | 4 7 82 | 4 4 46 |
| G. | JAN | 4 17 51 | 4 16 44 | | DEC | 8 20 16 | 8 15 5 |
| d. h. m. | FEB | 8 6 85 | 8 12 11 | | | (290 | 2 2 26 |
| 20 13 13 | MAR. | 4 19 19 | 5 6 14 | 1756. | JAN | 81 21 45 | 81 14 52 |
| | APRIL | (388 | 8 21 89 | D.C. | FEB | (81 21 40 | 01 1± (/2 |
| | 0 | 18 2 25 | 17 20 46 | | r EB. | (1 10 29 | 1 4 23 |
| | MAY . | 2 20 47 | 8 10 0 | 20 6 89 | MAR | 80 28 18 | |
| | - | (1 9 81 | 1 19 85 | | APRIL | 29 11 57 | 29 10 20 |
| | June . | 80 22 15 | (1 8 17 | | MAY. | 29 0 41 | 29 2 6 |
| 1 | JULY . | 80 10 59 | 80 10 10 | | JUNE . | 27 13 25 | 27 17 80 |
|] | Aug | 28 28 43 | 28 17 22 | | JULY. | 27 2 9 | 27 7 56 |
| | SEPT | 27 12 27 | 27 1 51 | | Aug. | 25 14 58 | 25 21 5 |
| | 0 | (12 6 49 | 12 11 15 | | SEPT. | 24 8 87 | 24 9 1 |
| | Ocr | 27 1 11 | 26 12 27 | | Oct. | 28 16 21 | 28 20 9 |
| | Nov | 25 18 55 | 25 1 40 | | Nov. | 22 5 5 | |
| | DEC | 25 2 89 | 24 17 84 | | DEC. | 1 | 1 |
| | | | | | 10.0. | | |
| 1754. | JAN | 28 15 24 | 23 11 80 | 1757. | JAN. | 20 6 84 | 20 4 89 |
| F. | FEB. | 22 4 8 | 22 6 16 | В. | 0 | £ 0 56 | 4 9 27 |
| 20 19 2 | MAR. | 28 16 52 | 24 0 26 | | FEB | 18 19 18 | |
| | 0 | (7 11 14 | 7 10 84 | 20 12 28 | MAR. | 20 8 2 | 1 |
| | APRIL | 22 5 86 | 22 16 45 | | APRIL | 18 20 46 | 18 14 57 |
| | MAY . | 21 18 20 | 22 6 27 | | MAY . | 18 9 80 | 18 8 57 |
| | June . | 20 7 4 | 20 17 28 | | JUNE . | 16 22 14 | |
| | JULY . | 19 19 48 | 20 2 27 | | JULY . | 17 | 1 |
| | Aug | 18 8 82 | 18 10 20 | | 0 | 81 5 20 | |
| | SEPT | 16 21 16 | 16 18 12 | | Aug. | 14 28 42 | 1 |
| | 0 | (1 15 88 | 1 12 89 | | SEPT. | | 7814 |
| | Oct | 16 10 0 | 16 2 54 | | Oor | | 1 |
| | Nov | 14 22 44 | 14 18 7 | | Nov. | | |
| | DEC | 14 11 28 | 14 1 15 | | DEC. | 11 2 88 | 11 8 47 |
| | | | | | 1 | 0 | |

| Mean Vernal | Month. | Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|----------------|------------|--|---------------------|----------------|--------|---|----------------------|
| Equinox. | | (O Full Ecl.) | Full Ecl.) | Equinox. | | (O Full Ecl.) | O Full Ecl.) |
| A.D. 1758. | | d. h. m. | d. h. m. | A.D. 1761. | | d. h. m. | d. h. m. |
| Δ. | JAN | 9 15 22 | 9 20 24 | March. | JAN | 6 6 32 | 6 11 54 |
| March. | _ 0 | ` | 24 8 49 | d. h. m. | FEB | 4 19 16 | 5 6 2 |
| d. h. m. | FEB | 8 4 6 | 8 7 8 | 20 11 43 | MAR | 6 8 0 | 6 21 38 |
| 20 18 17 | MAR | 9 16 50 | 9 17 5 | | APRIL | 4 20 44 | 5 10 13 |
| | APRIL | 8 5 34 | 8 2 37 | | MAY . | | 4 19 59 |
| | MAY. | 7 18 18 | 7 12 18 | | _ 0 | (19 3 50 | 19 0 23 |
| | June . | 6 7 2 | 5 22 57 | ' | June. | 2 22 12 | 3 3 43 |
| | July . | $\begin{bmatrix} 5 & 19 & 46 \\ 20 & 14 & 8 \end{bmatrix}$ | 5 11 12 20 18 42 | | July. | $ \left\{ \begin{array}{c cccc} 2 & 10 & 56 \\ 31 & 23 & 40 \end{array} \right. $ | 2 10 26 31 17 15, |
| | Aug | 4 8 30 | 4 1 25 | | Aug | 30 12 24 | 30 1 14 |
| 1 | SEPT | 2 21 14 | 2 17 18 | | SEPT | 29 1 8 | 28 11 25 |
| | Oct | ∫ 2 -9 58 | 2 10 8 | | Ост | 28 13 52 | 28 0 29 |
| 1 | 001. | 31 22 42 | 1 3 0 | | 0 | ∫12 8 14 | 12 13 24 |
| 1 | Nov | 30 11 26 | 30 19 2 | | Nov. | 27 2 36 | 26 16 32 |
| 1 | DEC | 30 0 10 | 30 9 35 | 1 | DEC | 26 15 20 | 26 10 59 |
| | | (19 10 90 | 10 10 00 | | | | |
| 1759. | T. 17 | $ \begin{vmatrix} 13 & 18 & 32 \\ 28 & 12 & 55 \end{vmatrix} $ | 13 10 22 | 1762. | JAN | 25 4 5 | 25 6 29 |
| G. | JAN Feb | 27 1 39 | 28 22 22 27 9 18 | c. | FEB | 23 16 49 | 24 1 21 |
| 21 0 6 | MAR. | 28 14 23 | 27 9 18 28 18 41 | 20 17 32 | MAR | 25 5 33 | 25 18 6 |
| 21 0 0 | APRIL | 27 3 7 | 27 2 57 | | APRIL | 23 18 17 | 24 7 55 |
| | MAY . | | 26 10 56 | [] | 0 | S 12 39 | 8 6 5 |
| | JUNE . | 1 | 24 19 37 | | MAY . | 23 7 1 | 23 18 46 |
| à | JULY | | 24 5 57 | | JUNE. | 21 19 45 | 22 3 17 |
| 7 | Aug. | | 22 18 43 | ∥ . | July. | 21 8 29 | 21 10 29 |
| | SEPT. | | 21 10 6 | | Aug | 19 21 13 | 19 17 30 |
| | Oct. | | 21 8 35 | | SEPT | 18 9 57 | 18 1 21 |
| 1 | Nov. | . 19 20 15 | 19 22 5 | II. | Oct | 17 22 41 | 17 10 56 |
| 1 | DEC. | . 19 8 59 | 19 16 14 | | ,,0 | 1 17 3 | 1 22 50 15 22 54 |
| | | | | ll . | Nov | 16 11 25 | 15 13 30 |
| 1760. | JAN. | | 18 8 49 | 11 | DEC | 10 0 9 | 10 10 00 |
| * Fig. | FEB. | | 16 22 59 | 11 | | 1 | 14 0 07 |
| 20 5 53 | ì | | 17 10 32 | 11 | JAN | 14 12 54 | 14 6 25 |
| | APRU | | 15 19 48 | 11 | FEB | | 13 0 46 |
| | MAY | 12 | | 11 | 1 | 1 | 1 |
| | O Trrain | 129 19 2 | 1 | 11 | APRIL | | 1 |
| | JUNE | | 1 | 11 | MAY . | | |
| | Aug. | | 12 17 49 | 14 | JULY . | | 1 |
| | SEPT. | | | 11 | Aug. | | 1 |
| | OCT. | 9 16 20 | 1 | 11 | SEPT. | - | |
| * | Nov. | | | 11 | Oct. | | |
| | 0 | 22 23 20 | 1 | 11 | 37 | 5 20 14 | 1 |
| | DEC. | 7 17 48 | 1 | 11 | DEC. | 5 8 58 | |
| , | | 1 - 1 | 1 . 200 | <u> </u> | | | |
| <u> </u> | | | · | | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|----------|--|-----------------------------|----------------------------|----------|------------------------------------|------------------------------------|
| A.D. 1764. | | d. h. m. | d. h. m. | A.D. 1767. | | d. h. m. | d. h. m. |
| A.G. | JAN | 3 21 42 | 3 12 22 | D. | JAN | 30 1 36 | 30 6 19 |
| March. | FEB | 2 10 26 | 2 3 14 | March. $d. h. m.$ | FEB | 28 14 20 | 28 16 30 |
| d. h. m. 20 5 10 | MAR | (2 23 10 | 2 19 31 | 20 22 36 | MAR | 30 3 4 | 30 1 58 |
| 20 0 10 | 0 | 17 17 82 | 18 2 38 | | APRIL | 28 15 48 | 28 11 13 |
| | APRIL | 1 11 54 | 1 12 30 | | MAY . | 28 4 32 | 27 21 2 |
| | 111 1111 | (1 0 38 | 1 5 17 | | June . | 26 17 16 | 26 8 14 |
| | MAY . | 30 13 22 | 30 20 57 | | JULY. | 26 6 0 | 25 21 24 |
| | T | 29 2 6 | 29 10 50 | | Aug. | 24 18 44 | 24 12 32 |
| | JUNE . | 28 14 50 | 28 22 45 | | SEPT. | 23 7.28 | 23 5 10 |
| 111 | JULY. | 27 3 34 | 27 9 7 | | Oct. | 22 20 12 | 22 22 24 |
| | Aug | | 10 9 19 | | Nov. | 21 8 56 | 21 15 13 |
| | _ 0 | $\begin{bmatrix} 10 & 21 & 56 \\ 25 & 16 & 18 \end{bmatrix}$ | 25 18 41 | • | . | 20 21 40 | 21 6 46 |
| | SEPT. | | | | DEC | 20 21 20 | 122 0 20 |
| | Oct | 25 5 2 | 25 4 11 | | | (4162 | 4 6 36 |
| | Nov | 23 17 46 | 28 14 14 | 1768. | JAN. | 19 10 25 | 19 20 35 |
| | DEC | 23 6 80 | 28 1 5 | С.В. | FEB. | 17 28 9 | 18 8 28 |
| 1765. | JAN | 21 19 15 | 21 12 54 | 20 4 25 | MAR. | 18 11 53 | 18 18 21 |
| F. | FEB | 20 7 59 | 20 1 38 | 20 4 20 | | 17 0 87 | 17 2 54 |
| 1 | 0 | 7 2 21 | 7 15 52 | | APRIL | 16 13 21 | 16 10 44 |
| 20 10 59 | MAR | 121 20 43 | 21 15 24 | İ | MAY. | (15 2 5 | |
| | APRIL | 20 9 27 | 20 6 8 | | JUNE. | 29 20 27 | |
| | MAY . | 19 22 11 | 19 21 33 | | - 0 | | |
| | JUNE . | 18 10 55 | 18 18 6 | | JULY. | | |
| | JULY . | 17 23 39 | 18 4 10 | | Aug. | 13 8 83 | |
| | Aug | (16 12 28 | 16 18 9 | | SEPT | 11 16 17 | |
| | 0 | 181 6 45 | 80 18 2 | | Ocr | 11 5 1 | 1 |
| | SEPT | 15 1 7 | 15 6 56 | | Nov. | 9 17 45 | |
| | Ocr | 14 18 51 | 14 18 43 | 1 | DEC | 9 6 29 | |
| | Nov. | 18 2 85 | 13 5 58 | | 0 | 124 0 51 | L 28 17 14 |
| | DEC | 12 15 19 | 12 16 49 | 1700 | Jan. | 7 19 18 | 8 4 56 |
| | | | 11 8 40 | 1769. | FEB. | 6 7 58 | |
| 1766. | JAN | 11 4 8 | 9 14 80 | 20 10 14 | | 7 20 42 | |
| E. | FEB | 9 16 48 | | 20 10 14 | | 6 9 26 | |
| | 0 | C24 11 10 | 24 22 12 | | APRIL | 5 22 10 | |
| 20 16 48 | MAR. | i i | 11 1 28 | <u>}</u> | MAY | | |
| } | APRIL | 9 18 16 | 9 12 41 | , | JUNE . | 19 5 10 | |
| | MAY . | | 9 0 51 | | -0 | | |
| 1 | June . | l . | 7 14 15 | | July . | | |
| | JULY . | | 7 4 55 | | Aug. | 1 | KOT 11 QU |
| | Aug. | 14 | | | SEPT. | | |
| | 0 | 20 15 81 | | 11 | | (80 TR 9 | 7 |
| | SEPT. | | 4 12 6 | | Oor. | . 80 2 8 | |
| | Ocr. | 8 22 40 | _ |]] | Nov. | . 28 15 18 | |
| | Nov. | . 2 11 24 | | | ~0 | 18 9 4 | |
| | DEC. | 1208 | | | DEC. | . 128 4 | 2 28 6 16 |
| Ţ | DEC. | · \81 12 52 | 81 19 10 | | (| | 1 1 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|---|---|---|--|--|--|---|
| A.D. 1770. G. March. d. h. m. 20 16 3 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 26 16 46 25 5 30 26 18 14 25 6 58 24 19 42 23 8 26 22 21 10 21 9 54 19 22 38 19 11 22 18 0 6 17 12 50 | d. h. m. 27 1 15 25 18 12 27 8 18 25 19 15 25 3 48 28 10 52 22 17 30 21 0 50 19 9 53 18 21 32 17 12 12 17 5 85 | A.D. 1773. c. March. d. h. m. 20 9 29 | JAN. FEB. MAR. O APRIL MAY. JUNE. JULY. AUG. SEFT. O OCT. | d. h. m. 23 7 56 21 20 40 23 9 24 7 3 46 21 22 8 21 10 52 19 23 36 19 12 20 18 1 4 16 13 48 1 8 10 16 2 82 | d. h. m. 22 23 49 21 15 13 28 7 40 7 11 14 22 0 27 21 16 38 20 7 26 19 20 27 18 7 44 {16 17 51 {30 20 28} 16 3 33 |
| 1771. F. 20 21 52 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O . Nov DEC. | 16 1 35 14 14 19 16 8 3 {14 15 47 29 10 9 14 4 81 12 17 15 12 5 59 10 18 43 9 7 27 { 8 20 11 23 14 33 7 8 56 | 16 0 42 14 19 59 16 13 50 15 5 6 29 4 19 14 17 20 18 2 54 12 10 40 10 17 45 9 1 12 8 9 57 23 18 56 6 20 48 6 10 7 | 1774. B. 20 15 18 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 14 15 16 14 4 0 12 16 45 11 5 29 12 18 18 11 6 57 10 19 41 9 8 25 8 21 9 7 9 58 5 22 87 5 11 21 4 0 5 8 12 49 | 14 18 29 14 0 1 12 11 19 10 28 25 12 12 28 11 2 20 10 17 11 9 8 37 8 28 59 7 14 41 6 4 18 5 16 51 4 4 28 8 15 46 |
| 1772. E.D. 20 3 41 | JAN. FEB. MAR. APRII O MAY JUNE JULY AUG. SEPT. O OCT. NOV. | 5 10 24 3 23 8 4 11 52 5 3 0 35 17 18 57 2 13 19 1 2 5 30 14 47 30 3 31 28 16 15 27 4 55 11 23 2 126 17 4 | 5 1 51 3 19 28 4 13 50 3 7 39 7 17 18 32 2 23 45 3 1 13 22 7 { 1 0 31 80 9 45 5 28 18 0 2 27 2 15 1 11 19 54 3 26 11 19 7 24 21 48 | | JAN FEB. C | $\begin{cases} 2 & 1 & 38 \\ 31 & 14 & 17 \\ 15 & 8 & 39 \\ 2 & 8 & 1 \\ 81 & 15 & 45 \\ 80 & 4 & 29 \\ 29 & 17 & 18 \\ 28 & 5 & 57 \\ 27 & 18 & 41 \\ \{11 & 18 & 6 \\ 26 & 7 & 26 \\ 24 & 20 & 6 \\ 21 & 8 & 56 \end{cases}$ | 2 2 45 81 18 80 15 17 19 2 0 8 81 10 54 29 22 17 29 10 47 28 0 41 27 15 49 3 11 9 14 5 26 7 83 6 24 28 26 8 24 14 38 7 28 4 89 |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. | Mean Vernal Equinox, | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|---|---|--|---|---|---|
| A.D. 1776. g.F. March. d. h. m. 20 2 56 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | d. h. m. 20 23 6 { 4 17 28 19 11 50 20 0 84 18 18 18 18 2 2 16 14 46 {16 8 90 80 21 52 14 16 14 18 4 58 12 17 42 11 6 26 10 19 10 | 14 8 5 13 0 11 12 17 27 11 10 52 | A.D. 1779. C. March. d. h. m. 20 20 22 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O DEC | d. h. m. 17 14 15 16 2 59 17 15 44 16 4 28 (15 17 12 (80 11 34 14 5 56 13 18 40 12 7 24 10 20 8 10 8 52 (8 21 86 (23 15 58 8 10 20 | d. h. m. 17 19 55 16 14 1 18 5 33 16 17 57 16 3 34 30 7 7 14 11 11 18 17 55 12 0 48 10 8 57 9 19 20 8 8 32 23 21 58 8 0 39 |
| 1777. E. 20 8 45 | JAN. O FEB. MAR. APRIL MAY JUNE JULY O AUG. SEPT. OCT. NOV. DRG. | $\begin{array}{c} 7 & 22 & 6 \\ 7 & 10 & 5 \\ 5 & 23 & 8 \\ 6 & 12 & 1 \\ 20 & 6 & 4 \\ 4 & 1 \\ 2 & 18 & 4 \\ 81 & 15 & 5 \end{array}$ | 6 23 18 41 3 8 7 2 2 9 17 47 6 8 2 48 0 7 10 48 4 5 18 20 8 5 2 48 10 20 15 10 2 8 12 50 6 2 1 44 31 11 15 18 80 5 5 | 20 2 11 | JAN. FEB. MAR. APRII MAY O JUNE JULY AUG. SEPT OCT. O NOV. DEC. | $\begin{array}{c} 5 & 11 & 49 \\ 6 & 0 & 38 \\ 4 & 13 & 17 \\ 4 & 2 & \\ 18 & 20 & 2 \\ 2 & 14 & 44 \\ 2 & 3 & 2 \\ 31 & 16 & 1 \\ 30 & 4 & 5 \\ 28 & 17 & 4 \\ 28 & 6 & 2 \\ 12 & 0 & 6 \\ 26 & 19 \\ \end{array}$ | 5 14 20 6 9 0 5 1 33 1 4 15 13 18 13 20 5 8 2 2 9 2 10 37 3 31 17 59 7 30 1 14 11 28 9 24 5 27 19 16 17 12 6 51 9 26 7 23 |
| 1778. b. 20 14 8 | JAN. FEB. MAR. APRI MAY JUNE JULY AUG SEPT OCT. NOV | 26 18 28 6 12 26 19 26 8 24 21 24 9 22 22 21 11 21 0 19 12 5 4 7 | 10 27 7 1 55 28 18 4 89 27 8 8 28 26 11 7 24 17 8 51 24 1 85 22 10 19 20 21 9 8 20 11 47 19 5 9 4 7 | 6. 6. 6. 6. 6. 6. 6. 6. 6. 6. | FEB. 0 MAR APR MAN JUN JUL AUG SEP OCT | 28 9 9 24 22 28 10 2 22 28 E 21 12 21 12 3 10 18 18 17 16 8 15 16 8 | 21 28 8 29 5 25 2 83 49 28 19 28 83 23 10 19 17 21 22 48 1 21 8 55 45 19 17 42 29 18 2 3 18 17 10 50 57 15 20 48 |

| | | | | | | | - |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 1782. | | d. h. m. | d. h. m. | A.D. 1785. | | d. h. m. | d. h. m. |
| F. | JAN | 14 5 25 | 13 20 59 | В. | JAN | 10 20 35 | 11 4 2 |
| March. | FEB | 12 18 9 | 12 11 27 | d. h . m . | FEB | 9 9 19 | 9 15 6 |
| d. h. m. 20 13 49 | MAR. | (14 6 54 | 14 3 11 | 20 7 15 | MAR | 10 22 4 | 11 1 0 |
| 20 10 10 | 0 | 29 1 16 | 29 10 51 | | APRIL | 9 10 48 | 9 10 2 |
| | APRIL | 12 19 38 | 12 19 37 | | MAY. | 8 23 32 | 8 18 49 |
| | MAY . | 12 13 33 | 12 12 1 | | June . | 7 12 16 | 7 4 11 |
| | | | 11 3 31 | | JULY. | 7 1 0 | 6 15 4 |
| | JUNE. | | | | Aug. | 5 13 44 | 5 4 6 |
| | JULY. | 10 9 50 | 10 17 31 | | | | 3 19 21 |
| | Aug | 8 22 34 | 9 5 48 | | SEPT | | 3 12 19 |
| | SEPT | 7 11 18 | 7 16 40 | | Ocr | 3 15 12 | |
| | 0 | (22 5 40 | 21 16 38 | 9 11 | Nov | 2 3 56 | 2 6 3 |
| l | Ост | 7 0 2 | 7 2 46 | | DEC | $\int 1 16 40$ | 1 23 22 |
| | Nov | 5 12 46 | 5 12 45 | | | 31 5 24 | 31 15 19 |
| | DEC | 5 1 30 | 4 23 6 | | | | |
| 1783. | JAN | 3 14 14 | 3 10 3 | | _ 0 | ∫14 23 46 | 14 15 4 |
| E. | FEB. | 2 2 59 | 1 21 37 | 1786. | JAN | 29 18 8 | 30 5 13 |
| 20 19 38 | MAR. | (3 15 43 | 3 9 53 | A. | Fев | 28 6 52 | 28 16 55 |
| 20 20 00 | 0 | 18 10 5 | 18 23 55 | 20 18 4 | MAR | 29 19 36 | 30 2 35 |
| | 1 | | | | APRIL | 28 8 20 | 28 10 47 |
| | APRIL | 1 | 1 23 2 | | MAY . | 27 21 4 | 27 18 16 |
| | MAY . | 1 17 10 | | | JUNE. | 26 9 48 | 26 2 1 |
| 1 | Т | 31 5 54 | 31 4 9 | | 0 | (11 4 10 | 11 13 3 |
| | JUNE . | 29 18 38 | 29 19 32 | | JULY . | 25 22 32 | 25 11 7 |
| | JULY. | 29 7 22 | 29 10 43 | | Aug | 24 11 16 | 28 22 81 |
| | Aug | 27 20 6 | 28 1 8 | | SEPT | 28 0 0 | 22 12 46 |
| | _ 0 | §11 14 28 | 11 1 37 | il | Oct | 22 12 44 | 22 5 41 |
| 1 | SEPT | 26 8 50 | 26 14 28 | | Nov | 21 1 28 | 21 0 21 |
| | Ост | 25 21 34 | 26 2 51 | | DRC | 20 14 12 | 20 19 21 |
| ļ | Nov | 24 10 18 | 24 14 32 | li | | | |
| | DEC | 23 23 2 | 24 1 45 | | 0 | ſ 4 8 34 | 4 2 4 |
| 1784. | JAN | 22 11 47 | 22 12 38 | 1787. | JAN | 19 2 57 | 19 18 12 |
| D.C. | FEB | 21 0 31 | 20 23 9 | G. | FER | 17 15 41 | 18 4 48 |
| | 0 | 6 18 53 | 7 5 56 | 20 18 53 | MAR | 19 4 25 | 19 17 22 |
| 20 1 27 | MAR. | 21 13 15 | 21 9 33 | | APRIL | 17 17 9 | 18 8 22 |
| | APRIL | 20 1 59 | 19 20 16 | | MAY . | 17 5 58 | 17 11 21 |
| İ | MAY . | | 19 7 53 | | JUNE . | (15 18 87 | 15 18 14 |
| | June . | 1 | 17 20 54 | | 0 | 30 12 59 | 80 17 1 |
| | JULY . | | 17 11 23 | 1 | JULY . | 15 7 21 | 15 1 5 |
| | Aug. | | | H | Aug | 13 20 5 | 18 9 1 |
| | 0 | 30 23 17 | _ | | SEPT | 12 8 49 | 11 19 5 |
| İ | SEPT. | 1 7 | 14 19 6 | | Oct. | 11 21 83 | 11. 8 5 |
| | Ост. | 14 6 23 | | | Nov. | 10 10 17 | 10 0 8 |
| | Nov. | | 18 1 51 | | DEC. | (9 28 1 | 9 18 38 |
| | DEC. | 12 7 51 | | | 0 | 24 17 23 | 24 17 22 |
| | | 51 | 12 10 00 | 1 | | (1, 20 | |
| | | | | 71 | | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|--|--|--|--|
| A.D. 1788. F.E. March. d. h. m. 20 0 42 | JAN FEB MAR APRIL MAY . JUNE . | d. h. m. 8 11 45 7 0 30 7 13 14 6 1 58 5 14 42 4 8 26 8 16 10 | d. h. m. 8 14 13 7 9 13 8 2 5 6 15 58 6 2 50 4 11 17 8 18 19 | A.D. 1791. B. March. d. h. m. 20 18 8 | Jan Feb Mar April O May . June . | d. h. m. 5 2 55 8 15 40 5 4 24 { 3 17 8 18 11 30 8 5 52 1 18 36 | d. h. m. 4 18 42 8 8 15 4 23 8 8 15 0 18 19 15 8 7 18 1 23 18 |
| | Aug Sept Oct Nov Dec | \$ 16 10 { 2 4 54 {31 17 88 30 6 22 29 19 6 28 7 50 27 20 84 | 2 1 1 81 8 81 29 17 47 29 5 87 27 20 21 27 18 41 | | JULY. AUG SEPT O OCT Nov DEC | 1 7 20 80 20 4 29 8 48 27 21 82 (12 15 54 (27 10 16 25 28 0 25 11 44 | 27 11 57 25 22 16 |
| 1789. D. 20 6 81 | JAN FEB MAR APRIL O MAY . JUNE JULY . AUG. SEPT. OCT O NOV. DEC. | 28 0 58 22 13 42 21 2 26 19 15 10 19 3 54 | 25 0 82 23 10 9 22 18 8 21 1 23 19 9 8 18 18 14 8 2 42 3 17 5 16 | 1792. a.g. 19 28 57 | JAN FEB | 24 0 28 22 18 12 28 1 56 21 14 40 21 8 24 19 16 3 17 17 8 16 6 2 15 19 14 7 4 | 28 20 9 22 7 52 3 22 20 16 0 21 9 85 4 20 28 56 3 19 15 8 2 19 6 27 6 17 21 28 0 16 11 38 4 16 0 46 8 14 18 2 |
| 1790. c. 20 12 20 | JAN. FEB. | 15 18 7 14 6 5 15 19 8 14 8 1 29 2 4 18 21 3 12 9 4 11 22 8 10 11 1 8 28 5 8 12 4 28 7 7 1 2 | 7 15 10 10 14 8 22 5 15 21 17 9 14 14 45 1 29 2 28 8 14 6 87 7 12 20 14 1 12 7 84 5 10 17 7 9 1 46 8 8 10 25 5 28 8 18 27 6 19 5 | 33333 | JAN. FED. O MAR. APRII MAY JUNE JULY AUG. O SEPT. OCT. NOV. DEC. | 10 28 3 10 12 3 9 0 1 8 18 4 7 2 12 12 20 5 15 5 8 8 16 | 1 10 22 18 26 1 5 15 12 8 82 29 10 18 46 18 10 5 44 57 8 17 85 41 8 7 14 25 6 22 22 47 21 16 58 9 5 14 29 58 5 6 47 87 8 22 80 21 8 18 7 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--------------------------------|---------------|------------------------------------|--------------------------------|----------------------------|---------------------|------------------------------------|------------------------------------|
| A.D. 1794. | | d. h. m. | d. h. m. | A.D. 1797. | | d. h. m. | d. h. m. |
| E. | JAN | { 1 18 5 {31 6 50 | 2 2 22 31 14 9 | March. $d. h. m.$ | Jan Feb | 27 22 0 26 10 44 | 28 3 53 26 21 55 |
| March. d. h. m. 20 11 35 | FEB. O | 15 1 12 | 15 0 32 2 0 31 31 9 43 | 20 5 1 | MAR | 27 23 28 26 12 12 26 0 56 | 28 13 16 27 1 32 26 11 2 |
| | APRIL May. | 29 21 2 29 9 46 | 29 18 17 29 3 1 | | MAY . O JUNE . | \$ 9 19 18 \$24 13 40 | 9 13 46 24 18 37 |
| | JUNE. JULY. | 27 22 30 27 11 14 | 27 12 53 27 0 42 | | JULY . | 24 2 24 22 15 8 | 24 1 22 22 8 26 |
| | O Aug | 11 5 36 25 23 58 | 11 9 36 25 14 52 | | SEPT | 21 3 52 20 16 36 | 20 16 49 20 8 25 |
| | SEPT Oct | 24 12 42 24 1 26 | 24 7 13 24 0 54 | | Nov | 19 5 20 (3 23 42 | 18 16 45 4 6 36 |
| | Nov Dec | 22 14 10 22 2 54 | 22 18 48 22 11 45 | | DEC | (18 18 4 | 18 8 50 |
| 1795. | Jan | 20 15 38 | 21 2 50 4 2 56 | 1798. g. | JAN FEB | 17 6 48 15 19 32 | 17 3 8 15 22 6 |
| 20 17 24 | FEB Mar | 19 4 22 20 17 6 | 19 15 36 21 2 8 | 20 10 50 | MAR APRIL | 17 8 16 15 21 0 | 17 16 27 16 8 47 |
| | APRIL MAY. | 19 5 50 18 18 84 | 19 10 50 18 18 23 | | MAY . O JUNE . | 15 9 44 80 4 6 13 22 28 | 15 22 22 29 20 80 14 9 11 |
| | JUNE. JULY. | 17 7 18 | 17 1 43 16 9 54 | | JULY . | 13 11 12 11 23 56 | 13 17 54 12 1 30 |
| | Aug. | 31 14 24 15 8 46 13 21 30 | 81 22 18 14 20 8 18 8 58 | | SEPT | 10 12 40 10 1 24 | 10 9 6 9 17 85 |
| | Oct. | 18 10 14 | 13 0 38 11 18 43 | | Nov | 8 14 8 23 8 30 | |
| 1796. | DEC. | 11 11 42 | 11 13 53 10 8 36 | | DEC | 8 2 52 | 7 15 55 |
| , с.в. 19 23 13 | FEB. | 8 13 11 | 9 1 25 9 15 29 | 1799. F. | JAN FEB | 6 15 86 5 4 21 | 6 6 19 4 22 38 |
| | APRIL May | 1 | 8 2 42 7 11 25 | 20 16 39 | MAR | 6 17 5 5 5 49 | 6 15 6 5 9 48 5 2 21 |
| | JUNE | . 5 4 51 | | | MAY . JUNE . JULY . | 4 18 33 3 7 17 2 20 1 | 8 17 6 |
| | Aug. Sept. | | 1 17 30 | | Aug. | (1 845 | 1 16 7 |
| | Oct. | 31 7 47 | 7 80 19 38 | | SEPT. | | |
| | DEC. | 14 14 55 | 3 14 16 25 | 11 | Nov Dec | 27 11 41 27 0 25 | |
| · | | | <u> </u> | | 1 | l | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Tull Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|---|---|---|---|---|--|
| A.D. 1800. E. March. d. h. m. 20 22 28 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC APRIL MAY . JUNE . O APRIL MAY . JUNE . JULY . O CCT NOV DEC | 24 1 58 25 14 37 { 9 8 59 24 3 21 23 16 5 22 4 49 21 17 83 20 6 17 18 19 1 { 3 13 23 18 7 45 16 20 29 16 9 14 14 21 58 18 10 42 { 14 28 26 29 17 48 13 12 10 13 0 54 11 13 98 11 2 22 9 15 6 { 8 8 50 { 22 22 12 7 16 34 6 5 18 | 9 17 22 8 8 13 2 22 9 24 7 22 10 6 11 8 2 5 28 16 | A.D. 1803. B. March. d. h. m. 21 15 54 | JAM. FEB. MAR. APRIL MAY. JUNE. JULY. AUG. SEPT. OCT. NOV. DEC. JAN. O FEB. APRIL MAY. JUNE JULY O AUG. SEPT. OCT. NOV. DEC. | 10 8 20 9 16 4 8 4 48 7 17 8 22 11 5 6 6 1 4 19 | 26 23 31 11 13 47 12 1 20 10 10 48 9 18 35 8 1 44 7 9 17 4 22 19 55 5 18 17 0 4 5 48 4 3 20 5 8 2 13 14 2 8 11 |
| 1802. | JAN. FEB. | 2 19 80 | | 1805. | JAN. | 0 15 16 3 | |
| 1 | MAR. OAPRI MAY JUNE JULY AUG OSEPT OCT. NOV | $ \begin{cases} 4 & 8 & 1 \\ 19 & 2 & 8 \\ 2 & 20 & 5 \end{cases} $ $ \begin{cases} 2 & 9 & 4 \\ 81 & 22 & 2 \\ 30 & 11 & 1 \\ 29 & 28 & 5 \\ 28 & 12 & 8 \\ 12 & 7 \\ 27 & 1 & 2 \\ 26 & 14 \\ 25 & 2 & 5 \end{cases} $ | 4 4 7 42 6 19 18 80 9 2 17 88 3 2 8 48 47 81 14 54 1 80 8 83 5 29 17 53 19 28 9 44 1 12 0 8 28 27 2 1 7 26 18 8 51 25 10 | 21 8 8 3 4 3 5 5 6 8 7 7 | FEB. MAR. APRI MAY JUNE O JULY AUG SEPT OCC. NOV. DEC. | 28 28 28 28 28 29 0 12 29 0 0 28 18 27 2 2 11 20 26 15 25 8 28 16 28 5 21 18 21 6 | 25 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|---------------------------------------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1806. | | d. h. m. | d. h. m. | A.D. 1809. | | d. h. m. | d. h. m. |
| E. | 0 | (5 1 7 | 5 2 21 | A | JAN | 16 10 39 | 16 3 27 |
| | JAN | 19 19 30 | 19 22 11 | March. $d. h. m.$ | FEB | 14 23 23 | 14 16 37 |
| March. | FEB | 18 8 13 | 18 17 4 | 21 2 47 | MAR | 16 12 7 | 16 6 55 |
| d. h. m. 21 9 21 | MAR | 19 20 57 | 20 9 48 | | APRIL | (15 0 51 | 14 22 11 |
| | APRIL | 18 9 41 | 18 23 32 | | 0 | 29 19 13 | 30 3 5 |
| | MAY . | 17 22 25 | 18 10 16 | | MAY . | 14 13 35 | 14 14 1 |
| | JUNE . | 16 11 9 | 16 18 41 | | June . | 13 2 19 | 13 5 43 |
| | JULY. | 15 23 53 | 16 1 44 | | JULY . | 12 15 3 | 12 20 37 |
| | Aug | 14 12 37 | 14 8 36 | | Aug | 11 3 47 | 11 10 13 |
| | SEPT | 13 1 21 | 12 16 19 | | SEPT. | 9 16 31 | 9 22 24 |
| | Oct. | 12 14 5 | 12 1 49 | | Oct. | (9 5 15 | 9 9 43 |
| | Nov. | 11 2 49 | 10 13 50 | | 0 | 23 23 37 | 23 11 33 |
| | DEC. | 10 15 33 | 10 4 36 | | Nov. | 7 17 59 | 7 20 26 |
| | DEC | 10 10 00 | 10 1 00 | | DEC. | 7 6 43 | 7 7 7 |
| 1807. | JAN | 9 4 17 | 8 21 48 | | 10200 | . 0 10 | |
| D. | FEB | 7 17 2 | 7 16 29 | | _ | F 40 07 | F 45 F0 |
| 21 15 10 | MAR. | 9 5 46 | 9 11 13 | 1810. | JAN. | 5 19 27 | 5 17 56 |
| 21 10 10 | APRIL | 7 18 30 | 8 4 34 | G. | FEB | 4 8 11 | 4 4 56 |
| | MAY. | 7 7 14 | 7 19 29 | 21 8 36 | MAR. | 5 20 55 | 5 16 12 |
| | 0 | 22 1 36 | 21 19 7 | | APRIL | 4 9 40 | 4 4 2 |
| | JUNE . | 5 19 58 | 6 7 39 | | MAY . | 3 22 24 | 8 16 46 |
| | JULY. | 5 8 42 | 5 17 21 | | JUNE . | 2 11 8 | 2 6 38 |
| | AUG. | | 4 1 20 | | JULY . | $\int 1 23 52$ | 1 21 31 |
| | SEPT. | 2 10 10 | 2 9 9 | | | 31 12 36 | 81 12 59 |
| | DEFI | (1 22 54 | | | Aug | 30 1 20 | 30 4 20 |
| | Oct | 81 11 38 | 1 | | SEPT | 28 14 4 | 28 19 2 |
| | | (15 6 0 | | | Ocr | 28 2 48 | 28 8 58 |
| | Nov. | 12 | | | Nov | 26 15 32 | 26 21 36 |
| | DEC. | 00.40 | | | DEC | 26 4 16 | 26 9 81 |
| | | | | | _ | 0.47 | 04.00.00 |
| 1808. c.b. | JAN. | | | 1811. F. | JAN | 24 17 0 | 24 20 38 |
| | FEB. | 1 | | F. | FEB | 28 5 44 | 28 7 0 |
| 20 20 59 | MAR. | 1 | | 01 11 65 | V | 10 0 6 | 10 8 40 |
| | APRII | l i | | 21 14 25 | MAR. | 24 18 28 | 24 16 48 |
| | 0 | 10 10 2 | 1 | | APRIL | 23 7 12 | 28 2 29 |
| | MAY | 1 | | | MAY, | 22 19 56 | 22 12 46 |
| | JUNE | | | | JUNE . | | 21 0 23 |
| | July | | 1 | | JULY . | 1 | 20 18 48 |
| | A.ug. | 1 | | - H | Aug. | 1 | 19 4 58 |
| | SEPT. | | | | 0 | 3 4 30 | |
| l l | Ocr. | . 19 20 2 | | lì . | SEPT. | 1 ' | |
| | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 3 14 4 | 1 | 11 ' | Oct. | 17 11 36 | |
| | Nov. | 1 - | _ | 31 | Nov. | | |
| | DEC. | . 17 21 5 | 5 17 15 27 | | DEC. | . 15 13 4 | 15 21 38 |
| l | , 1 | | 1 | _! | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | dean New Moon. Full Ecl.) (| True New Moon. O Full Ecl.) |
|----------------------------|---|---|---|----------------------------|---|---|---|
| Vernal | Month. Jan Feb O Mar April May . June . July . Oct Nov Dec Feb. O Mar Feb. O Mar Feb. O Mar April May . June . June . June . Feb. O Mar April May . June . June . June . June . April May . April May . April May . Feb Mar April May . | Moon. O Full Ecl.) (d. h. m. 14 1 49 {12 14 38 27 8 55 18 3 17 11 16 1 11 4 45 9 17 29 9 6 13 { 7 18 57 22 13 19 6 7 41 5 20 25 4 9 9 3 21 53 { 2 10 37 81 28 22 15 17 44 2 12 6 { 1 0 50 80 13 34 30 2 18 28 15 2 23 3 46 { 11 22 8 26 16 80 25 5 14 24 17 58 28 6 42 21 19 26 21 8 10 19 20 56 21 9 38 19 22 25 | Moon. OFull Ecl.) d. h. m. 14 11 9 12 22 54 27 8 12 13 9 0 11 17 48 11 1 56 9 10 17 8 19 52 7 7 33 22 17 7 5 21 46 5 14 21 4 8 23 4 2 48 2 20 6 { 1 11 20 15 11 9 3 0 3 1 10 21 30 18 42 30 1 57 28 9 4 27 17 9 12 5 18 26 3 16 24 16 12 24 8 9 23 2 28 3 2 21 52 0 21 16 43 20 9 82 31 22 38 30 20 10 28 | Vernal | JAN FEB MAR APRIL MAY . JUNE . OCT Nov DEC. O JUNE . APRIL MAY . O JUNE . APRIL MAY . O JUNE . JUNE . JUNE . JUNE . JUNE . JUNE . JUNE . JUNE . JUNE . SEPT OCT Nov O DEC FEB | Moon. Full Ect.) d. h. m. 10 16 58 9 5 43 10 18 27 9 7 11 8 19 55 7 8 39 22 3 1 6 21 23 5 10 7 3 22 51 3 11 35 2 0 19 1 18 3 16 7 25 31 1 47 29 14 32 28 3 16 28 16 0 27 4 44 26 17 28 10 11 50 24 18 56 28 7 40 21 20 22 21 9 8 19 21 53 4 16 1 19 10 3 | Moon. O Fall Ecl. d. h. m. 10 16 20 9 11 44 11 5 36 9 20 49 9 8 57 7 18 28 21 20 23 7 2 0 5 8 54 3 16 11 3 0 50 1 11 87 1 1 3 16 15 15 30 17 4 29 11 3 28 5 45 28 23 47 27 15 55 27 5 25 10 3 37 2 25 16 18 3 25 1 14 28 9 9 1 21 17 5 3 21 1 57 2 19 12 19 4 4 28 6 6 19 0 34 0 17 14 47 4 16 6 39 8 17 28 36 2 16 16 48 |
| | JUNE . JULY . AUG SEPT OCT NOV DEC | 17 28 50 17 12 84 16 1 18 | 1 17 8 44 3 15 16 8 2 14 1 7 3 18 12 47 0 12 8 88 4 11 21 5 | | MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 14 3 4 12 16 2 11 5 1 10 17 5 9 6 4 | 0 14 23 48 4 14 12 30 8 12 23 21 2 11 9 0 6 10 18 16 0 9 3 54 |

| Mesn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 1818. | | d. h. m. | d. h. m. | A.D. 1821. | | d. h. m. | d. h. m. |
| D. | JAN | 788 | 7 1 43 | G. March. | JAN | 3 23 18 | 4 8 56 |
| March. d , h , m . | FEB | 5 20 58 | 5 14 9 | d. h. m. | FEB | 2 12 2 | 2 21 36 |
| 21 7 7 | MAR | 7 9 37 | 7 3 39 | 21 0 33 | MAR | 4 0 46 | 4 8 24 |
| | APRIL | (5 22 21 | 5 18 10 | | APRIL | 2 13 31 | 2 17 37 |
| | 0 | 20 16 43 | 21 2 49 | | MAY . | 5 2 2 15 | 2 1 48 |
| | MAY . | 5 11 5 | 5 9 31 | | mai . | 31 14 59 | 31 9 44 |
| | JUNE. | 3 23 49 | 4 1 13 | ' | JUNE . | 30 3 43 | 29 18 25 |
| | JULY. | 3 12 33 | 3 16 34 | | JULY . | 29 16 27 | 29 4 52 |
| | | (2 1 17 | 2 6 58 | | Aug | 28 5 11 | 27 17 49 |
| | Aug | 81 14 1 | 81 20 6 | | SEPT | 26 17 55 | 26 9 23 |
| | SEPT | 30 2 45 | 30 8 5 | | Oct | 26 6 39 | 26 3 1 |
| | 0 | (14 21 7 | 14 7 42 | | Nov | 24 19 23 | 21 21 37 |
| | Ocr. | 29 15 29 | 29 19 17 | | DEC | 24 8 7 | 24 15 46 |
| 1 | Nov. | 28 4 13 | 28 6 9 | | | | |
| | DEC. | 27 16 57 | 27 17 0 | 4000 | T | 22 20 51 | 23 8 12 |
| | DEC | 2. 10 0. | | 1822. | JAN | | 6 7 55 |
| 1819. | Jan | 26 5 42 | 26 3 52 | | 70 | 12 | |
| C- | FEB | 24 18 26 | 24 14 48 | | FEB. | 21 9 85 | 21 22 12 |
| 21 12 56 | MAR | 26 7 10 | 26 2 3 | 21 6 22 | MAR. | 22 22 20 | 28 9 35 |
| l . | 0 | (10 1 32 | 10 15 81 | | APRIL | 21 11 4 | 21 18 41 |
| 1 | APRIL | 24 19 54 | 24 13 58 | | MAY . | 20 23 48 | 21 2 14 |
| i | MAY . | 24 8 38 | 24 2 59 | | JUNE . | 19 12 32 | 19 9 11 |
| 1 | JUNE . | 22 21 22 | 22 17 14 | | JULY . | 19 1 16 | 18 16 35 |
| | JULY . | 22 10 6 | 22 8 26 | | 0 | { 2 19 38 | 3 2 49 |
| | Aug | 20 22 50 | 21 0 3 | | Aug | (17 14 0 | 17 1 33 |
| | SEPT | 19 11 84 | 19 15 23 | | SEPT | 16 2 44 | 15 18 8 |
| 1 | 0 | (4 5 56 | 8 17 18 | | Oct | 15 15 28 | 15 8 35 |
| 1 | Oct. | 119 0 18 | 19 5 57 | 1 | Nov. | 14 4 12 | 18 20 56 |
| | Nov. | 17 18 2 | 17 19 31 | ll. | DEC | 13 16 56 | 13 16 5 |
| | DEC. | 17 1 46 | 17 8 4 | 1 | | | |
| 4000 | | 15 14 30 | 15 19 88 | 1823. | JAN. | (12 5 40 | 12 11 29 |
| 1820. B.A. | JAN. | | 14 6 18 | E. | 0 | 27 0 2 | 26 19 46 |
| | FEB. | 14 8 14 | | | FEB. | 10 18 24 | 11 5 29 |
| 20 18 44 | MAR. | 1) | | 21 12 11 | MAR. | 12 7 8 | 12 20 58 |
| | 0 | 29 10 20 | | | APRIL | 10 19 52 | 11 9 14 |
| | APRIL | 18 4 42 | 13 1 34 | | MAY | 1 | 1 |
| | MAY | | | | JUNE | | |
| | JUNE . | | 10 21 51 | | JULY | | |
| | July . | | | | 0 | 28 4 20 | |
| | Aug. | | 1 - 1 - 1 | | Aug. | | |
| | SEPT. | 12 | I . | 1 | SEPT. | | |
| | 0 | 22 14 44 | | 1 | Oct. | 5 0 16 | |
| | Oct. | . 796 | 1 | | Nov. | 0.10 | |
| | Nov. | · | | | DEC. | 8 1 4 | |
| | DEC. | . 5 10 34 | 5 18 27 | | E PEG. | | |
| | 1 | ı | 1 | 11 | l | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. | Prue New Moon. Full Ecl. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon.) Full Ecl.) |
|---|--|---|--|--|---|--|--|
| A.D. 1824. D.c. March. d. h. m. 20 18 0 | JAN. O FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OOT NOV DEC JAN FEB MAR APRIL | d. h. m. 1 14 28 16 8 51 1 81 8 18 29 15 57 30 4 41 { 28 17 25 28 6 9 26 18 58 {11 13 15 26 7 87 24 20 21 23 9 5 22 21 49 21 10 83 20 28 17 19 12 1 18 0 45 19 18 29 18 2 18 17 14 57 { 1 9 19 | d. h. m. 1 10 36 16 11 20 81 6 34 1 0 48 30 17 22 29 6 57 28 17 37 27 2 1 11 6 45 26 9 18 24 16 18 28 0 16 22 10 3 20 22 11 20 12 57 19 5 56 18 0 15 19 18 37 18 11 41 18 2 28 1 2 25 16 14 38 | A.D. 1827. C. March. d. h. m. 21 11 26 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC JAN FEB MAR . APRIL | d. h. m. 27 18 22 26 7 6 27 19 51 26 8 35 {11 2 57 25 21 19 24 10 3 23 22 47 22 11 31 21 0 15 20 12 59 { 4 7 21 19 1 43 18 14 27 17 3 11 15 15 55 16 4 39 14 17 23 14 6 7 12 18 51 12 7 35 | d. h. m. 27 12 10 26 0 54 27 14 37 26 5 18 11 10 48 25 20 40 24 12 11 24 3 12 22 17 11 21 6 0 20 17 49 3 19 20 19 5 4 18 16 3 17 2 54 15 18 40 16 0 28 14 11 42 18 23 50 12 18 16 12 8 57 |
| 1826. A. 21 5 87 | JULY AUG. SEPT. OCT. NOV. O DEC. JAN. FRB. MAR. APRII MAY O JUNE JULY AUG. SEPT. O NOV. DEC. | . 14 5 9 . 12 17 53 . 12 6 87 . 10 19 21 . 25 18 48 . 10 8 5 . 8 20 49 . 7 9 88 . 8 22 17 . 7 11 2 . 6 28 46 . 21 18 8 . 5 12 80 . 5 1 14 . 8 18 58 | 81 8 16 14 18 28 29 18 25 | 1829. D. 20 23 4 | JAN. FEB. MAR. OAPRIL MAY JUNE JULY AUG. OSEPT. OCT. NOV. DEC. | 20 7 50 4 2 12 3 14 56 2 3 40 { 1 16 24 31 5 8 29 17 52 (13 12 14 | 29 11 42 13 8 31 28 4 29 27 21 48 26 14 39 |

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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 1830. | | d. h. m. | d. h. m. | A.D. 1833. | | d. h. m. | d. h. m. |
| c. | JAN | 24 9 33 | 24 19 53 | F. | 0 | ∫ 6 6 20 | 6 10 19 |
| | FEB | 22 22 17 | 23 7 32 | 35 1 | JAN | 121 0 42 | 21 0 17 |
| March. d . h . m . | 0 | (9 16 39 | 9 15 50 | March. d , h , m . | FEB | 19 13 27 | 19 19 31 |
| 21 4 52 | MAR | 24 11 1 | 24 17 21 | 20 22 19 | MAR | 21 2 11 | 21 13 11 |
| | APRIL | 22 23 45 | 23 1 46 | | APRIL | 19 14 55 | 20 4 13 |
| | MAY . | 22 12 29 | 22 9 4 | | MAY . | 19 3 39 | 19 16 16 |
| | JUNE . | 21 1 13 | 20 17 33 | | June . | 17 16 23 | 18 1 42 |
| | JULY. | 20 13 57 | 20 2 53 | | 0 | § 2 10 45 | 2 3 2 |
| | Αυg | 19 2 41 | 18 14 29 | | JULY. | 117 5 7 | 17 9 24 |
| | 0 | ſ 2 21 3 | 3 0 44 | | Aug | 15 17 51 | 15 16 81 |
| | SEPT | 17 15 25 | 17 4 49 | | SEPT | 14 6 35 | 14 0 3 |
| | Ост | 17 4 9 | 16 21 40 | | Ост | 13 19 19 | 13 8 59 |
| | Nov | 15 16 53 | 15 16 8 | | Nov | 12 8 3 | 11 20 O |
| | DEC | 15 5 37 | 15 10 52 | | DEC | ∫11 20 47 | 11 9 29 |
| | | | | | 0 | 126 15 9 | 26 23 57 |
| 1831. | JAN | 13 18 21 | 14 4 26 | 1834. | JAN | 10 9 31 | 10 1 20 |
| В. | FEB | (12 7 5 | 12 19 44 | E. | FEB. | 8 22 15 | 8 18 57 |
| | 0 | 127 1 27 | 26 19 15 | 21 4 8 | MAR. | 10 10 59 | 10 18 17 |
| 21 10 41 | MAR | 13 19 49 | 14 8 19 | 21 4 0 | APRIL | 8 23 43 | 9 6 57 |
| | APRIL | 12 8 33 | 12 18 22 | | MAY . | 8 12 27 | 8 22 52 |
| | MAY . | 11 21 17 | 12 2 27 | | JUNE. | 7 1 11 | 7 12 20 |
| | JUNE . | 10 10 1 | 10 9 28 | | O NE. | 21 19 88 | 21 10 48 |
| | JULY . | 9 22 45 | 9 16 25 | | JULY. | 6 18 55 | 6 28 22 |
| | Aug | 8 11 29 | 8 0 27 | | Aug. | 5 2 39 | 5 8 33 |
| | 0 | 123 5 51 | 23 12 25 | | SEPT. | 8 15 28 | 8 16 50 |
| | SEPT. | 7 0 13 | 6 10 37 | 1 | Oct. | 3 4 7 | 3 1 12 |
| | Oct. | 6 12 57 | 5 23 40 | | Nov. | 1 16 51 | (1 10 25 |
| | Nov. | 5 1 41 | 4 15 47 | | 21011 | 1 1 5 85 | 30 21 2 |
| | DEC. | 4 14 25 | 4 10 17 | | DEC. O | | 16 7 18 |
| | | | | | | 30 18 19 | 80 9 16 |
| 1832. | JAN. | . 339 | 3 5 50 | 1005 | 7 | 00 7 9 | 00 00 11 |
| A.G. | FEB. | . 1 15 54 | 2 0 45 | 1835. | JAN. | 29 7 8 | 28 23 11 |
| 90 1e 90 | Mar. | ∫ 2 4 3 | 3 2 17 32 | 1 . | FEB. | 27 19 47 | 27 14 85 |
| 20 16 30 | MAR. | ` \land 17 29 | 2 (1 721) | 21 9 57 | MAR | 29 8 32 | 27 28 40 |
| | APRII | 30 6 6 | 30 18 10 | | MAY. | | 27 15 45 |
| | MAY | . 29 18 50 | 30 2 35 | | | (11 4 22 | |
| | June | | | | JUNE. | 13 | 1 |
| | July | | | | JULY . | | |
| | Aug | t | 25 23 39 | | Aug. | | 1 |
| | SEPT. | 1 | | | SEPT. | | |
| | Oct. | 1 | | | Oct. | 22 12 30 | |
| | Nov. | | | II. | Nov. | | |
| | DEC. | . 22 11 5 | 3 22 5 8 | | DEC. | 20 3 8 | |
| | | | | | _ 101 | "" | 10 20 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|--------|------------------------------|------------------------------|----------------------------|----------------|----------------------|--------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. | | | (O Full Ecl.) |
| 1836. | JAN. | 18 15 58 | 18 10 85 | 1839. F. | T | d. h. m. | d. h. m. |
| March. d. h. m. | FEB. | 17 4 87 | 16 22 39 | March. | JAN | 15 7 2 | 15 17 36 |
| 20 15 45 | MAR. | 17 17 21 | 17 11 36 | d. h. m. 21 9 12 | FEB | 13 19 46 | 14 6 14 |
| | APRIL | 16 6 5 | 16 1 80 | 21 9 12 | MAR | 15 8 30 | 15 16 50 |
| | 0 | 1 1 0 27 | 1 10 36 | | APRIL | 13 21 14 | 14 1 48 |
| | MAY . | 15 18 49 | 15 16 19 | | MAY. | 13 9 58 | 13 9 30 |
| | JUNE. | 14 7 88 | 14 7 41 | | JUNE. JULY. | 11 22 42 11 11 26 | 11 17 6 11 1 88 |
| | July . | 13 20 17 | 18 28 2 | | Aug. | | |
| | Aug | 12 9 1 | 12 13 45 | | SEPT. | 10 0 10 8 12 54 | 9 11 53 8 0 51 |
| | SEPT | 10 21 45 | 11 8 23 | | Oct | 8 1 38 | 7 16 36 |
| | Ocr | (10 10 29 | 10 15 57 | | Nov. | 6 14 22 | 6 10 33 |
| | 0 | 25 4 51 | 24 15 80 | | DEC. | 6 3 6 | 6 5 31 |
| | Nov | 8 28 18 | 9 8 48 | | DEC | | 0 0 0 0 1 |
| | DEC. | 8 11 57 | 8 15 1 | 1040 | т. | 4 17 70 | 4 00 77 |
| | - | | | 1840. E.D. | JAN | 4 15 50 | 4 23 57 |
| 1837. | JAN | 7 0 41 | 7 1 58 | | FEB | 3 4 34 17 22 56 | 3 16 33 |
| | FEB | 5 18 25 | 5 12 41 | 20 15 1 | MAR. | 8 17 18 | 17 10 14 4 6 29 |
| 20 21 84 | MAR. | 7 2 9 | 6 28 16 | 20 10 1 | APRIL | 2 6 3 | 2 17 41 |
| | APRIL | 5 14 58 | 5 9 57 | | APRIL | (1 18 47 | 2 2 31 |
| | 0 | 20 9 15 | 20 28 4 | | MAY. | 31 7 31 | 31 9 50 |
| | MAY . | 5 8 87 | 4 21 16 | | June . | 29 20 15 | 29 16 35 |
| | JUNE. | 8 16 21 8 5 5 | 8 9 47 2 28 44 | | JULY. | 29 8 59 | 29 0 31 |
| | JULY. | 8 5 5 | 1 1 | | 0 | (13 8 21 | 13 9 44 |
| | Avg | 81 6 88 | 1 14 55 81 6 49 | | Aug. | 27 21 43 | 27 8 55 |
| | e | 29 19 17 | 29 22 89 | | SEPT. | 26 10 27 | 25 20 32 |
| | SEPT. | (14 18 89 | 14 1 22 | | Ocr | 25 23 11 | 25 11 13 |
| | Oct. | 29 8 1 | 29 18 50 | | Nov | 24 11 55 | 24 4 44 |
| | Nov. | 27 20 45 | 28 8 57 | | DEC | 24 0 39 | 24 0 1 |
| | DRC. | 27 9 29 | 27 16 52 | | | | |
| | | | | 1841. | JAN | 22, 13 24 | 22 19 30 |
| 1838. | JAN | 25 22 14 | 26 4 88 | o. | 0 | 6 7 46 | 6 4 33 |
| | Fan. | 24 10 58 | 24 15 0 | | FEB | 21 2 8 | 21 13 28 |
| 21 8 28 | MAR. | 25 28 42 | 26 0 28 | 20 20 50 | MAR. | 22 14 52 | 23 4 45 |
| | 0 | 9 18 4 | 10 4 12 | | APRIL | 21 3 36 | 21 16 57 |
| | APRIL | 124 12 26 | 24 9 24 | | MAY . | 20 16 20 | 21 2 22 |
| | MAY . | 24 1 10 22 18 54 | 28 18 88 22 4 47 | | JUNE . | 19 5 4 | 19 9 54 |
| | June. | 22 18 54 | 21 16 54 | | JULY . | 18 17 48 | 18 16 36 |
| | JULY . | 20 15 22 | 20 7 12 | | 0 | ſ 2 12 10 | 2 12 31 |
| | Aug. | 19 4 6 | 18 28 27 | | Aug | 17 6 82 | 16 23 33 |
| | SEPT | (8 22 28 | 8 16 44 | | SEPT | 15 19 16 | 15 7 58 |
| | Oct. | 18 16 50 | 18 16 51 | | Oct | 15 8 O | 14 18 28 |
| | Nov. | 17 5 84 | 17 10 19 | | Nov | 13 20 44 | 13 7 52 |
| | n | 16 18 18 | 17 2 49 | | DEC | 13 9 28 | 13 0 10 |
| | DEC | 10 20 20 | 1 | | | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) |
|---------------------------------------|--|--|---|--|--|---|--|
| A.D. 1842. B. March. d. h. m. 21 2 38 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov DEC | d. h. m. {11 22 12 26 16 34 10 10 56 11 23 40 10 12 24 10 1 8 8 13 52 { 8 2 36 22 20 58 6 15 20 5 4 4 4 16 48 3 5 32 { 2 18 16 | d. h. m. 11 18 37 26 20 14 10 13 53 12 8 28 11 0 43 10 14 12 9 0 50 8 9 20 22 13 19 6 16 42 5 0 3 4 8 21 2 18 24 2 6 41 31 21 20 | A.D. 1845. E. March. d. h. m. 20 20 5 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 8 13 22 7 2 6 8 14 50 7 3 84 { 6 16 18 {21 10 40 5 5 2 4 17 46 3 6 30 1 19 14 { 1 7 58 { 30 20 42 { 14 15 4 { 29 9 26 28 22 10 | d. h. m 8 9 17 6 20 51 8 9 5 6 22 10 6 12 16 21 18 26 5 3 13 4 18 36 3 9 47 2 0 13 1 13 36 31 2 2 14 3 15 29 1 0 |
| 1843. | JAN. | | 30 14 3 | 1846. D. | JAN FEB MAR | 27 10 55 25 23 39 27 12 23 | 27 11 50 25 22 18 27 8 36 |
| 1844. G.F. 20 14 1 | Nov. O DEC. JAN. FEB. | (30 21 18 29 9 57 28 22 41 27 11 25 27 0 6 25 12 56 24 1 37 28 14 22 3 1 | 3 31 1 54 29 18 39 29 9 21 5 27 21 36 9 27 7 44 3 25 16 32 7 24 0 58 1 23 9 53 5 21 19 54 7 7 2 34 9 21 7 21 4 19 20 21 8 18 10 56 2 19 2 36 6 17 18 56 0 17 11 10 52 1 1 2 14 16 2 3 58 15 16 3 12 14 4 4 26 12 15 3 | 1847. c. 21 7 45 | APRIL MAY . JUNE . JULY . AUG . SEPT . OCT . NOV . DEC. JAN. FEB. | 26 1 7 25 18 51 24 2 85 28 15 19 22 4 8 20 16 47 20 5 81 18 18 15 18 6 59 16 19 44 15 8 28 16 21 12 81 15 9 56 14 22 40 13 11 24 13 0 8 11 12 52 | 25 19 16 25 6 51 28 19 58 23 10 27 22 2 10 20 18 20 20 10 18 19 1 11 18 14 55 17 8 18 15 14 18 17 0 8 31 23 27 5 15 8 58 14 17 39 4 13 8 2 5 12 13 59 2 11 8 9 6 9 18 34 8 24 16 38 |
| | Nov | $\begin{cases} 10 & 11 \\ 25 & 6 \end{cases}$ | $ \begin{array}{c cccccccccccccccccccccccccccccccc$ | 3 5 | 37 | | 4 8 5 30 |

| Mean | Month. | Mean New Moon. | True New | Mean Vernal | Month. | Moon. | Frue New Moon. |
|--------------------|---------|-------------------|--------------|-------------------|--------|------------------|-------------------|
| Vernal Equinox. | MOINUA. | (O Full Ecl.) | O Full Ecl.) | Equinox. | | (O Full Ecl.) (C |) Full Edi.) |
| A.D. 1848. | | d. h. m. | d. h. m. | A.D. 1851. | | d. h. m. | d. h. m. |
| B.A. | JAN. | 6 4 32 | 6 14 44 | E. | JAN | 5 2 19 41 | 2 13 15 |
| March. | FEB | 4 17 16 | 5 4 31 | 7.5 | 0 | (2. 22 - | 17 19 15 |
| d. h. m. 20 13 31 | MAR. | (5 6 0 | 5 16 3 | March. $d. h. m.$ | FEB | 1 8 25 | 1 8 11 |
| 20 15 01 | 0 | 20 0 22 | 19 23 17 | 21 6 58 | MAR | 2 21 9 | 3 3 7 |
| | APRIL | 3 18 44 | 4 1 33 | | A | (1 9 54 | 1 20 34 |
| | MAY. | 3 7 28 | 3 9 36 | | APRIL | [30 22 38] | 1 11 26 |
| | June . | 1 20 12 | 1 17 0 | | MAY . | 30 11 22 | 30 23 26 |
| | JUNE . | (1 8 56 | 1 0 46 | | JUNE . | 29 0 6 | 29 8 55 |
| | July . | 30 21 40 | 30 9 58 | | 0 | (13 18 28 | 13 9 41 |
| | Aug | 29 10 24 | 28 21 34 | | JULY. | 28 12 50 | 28 16 48 |
| | | (13 4 46 | 13 8 27 | | Aug | 27 1 34 | 27 0 10 |
| | SEPT. | 27 23 8 | 27 12 1 | | SEPT | 25 14 18 | 25 8 3 |
| | Oct. | 27 11 52 | 27 5 6 | | Ocr | 25 8 2 | 24 17 18 |
| | Nov. | 00 0 00 | 25 28 55 | | Nov | 23 15 46 | 28 4 81 |
| | DEC. | 25 13 20 | 25 18 57 | | DEC | 28 4 80 | 22 17 59 |
| | DE0 | | | | | (6 22 52 | 7 8 37 |
| | - | 24 2 5 | 24 12 43 | 1852. | JAN | 21 17 14 | 21 9 87 |
| 1849. | JAN. | 24 2 5 | 23 4 2 | D.C. | FEB. | 20 5 59 | 20 2 50 |
| G. | FEB. | (9 9 11 | 9 3 16 | 20 12 47 | MAR. | 20 18 43 | 20 20 41 |
| | 0 | 3 | 24 16 29 | | APRIL | 19 7 27 | 19 13 59 |
| 20 19 20 | MAR. | | 23 2 16 | | MAY | 18 20 11 | 19 5 42 |
| | APRIL | 1 | 22 10 7 | | JUNE | 1 - 2 - | 17 19 11 |
| | MAY | | 20 16 46 | | 0 | (2 8 17 | 1 17 50 |
| | JUNE | | 19 23 49 | | JULY | . 16 21 39 | 17 6 25 |
| | July | | 18 7 51 | | Aug. | | 15 15 57 |
| | Aug. | (2 13 85 | | | SEPT. | 10.00 7 | 14 0 89 |
| | 0 | | | | Ocr. | . 13 11 51 | 13 9 28 |
| | SEPT. | 16 20 41 | | | Nov. | . 12 0 35 | 11 19 8 |
| 1 | Oor. | . 15 9 25 | | | DEC. | . (11 13 19 | 11 5 51 |
| | Nov. | 14 22 9 | | | 0 | 26 7 41 | 26 15 81 |
| | DEC. | . 1+ 22 5 | 12 10 10 | | | | 9 18 1 |
| | | 10 10 77 | 10 10 71 | 1853. | JAN. | | 8 7 36 |
| 1850. | JAN. | | | | FEB. | 40 0 04 | 9 22 27 |
| F. | FEB. | | | 11 =0 == - | | 0 40 44 | 1 |
| 21 1 9 | MAR. | | . | 11 | APRI | _ | |
| | Arri | 1 | | 14 | MAY | | 1 |
| | MAY | . 11 13 49 | | . 11 | Јиив | 12 | 5 21 8 81 |
| | June | | | . 11 | Turva | 0.00 | |
| | July | | | . 13 | JULY | | |
| | Aug | | 1 7 28 44 | . 11 | Aug | ~ = = | |
| , | SEPT | | 1 | 11 | SEPT | 0 00 0 | |
| | Oct. | | | . 11 | Oct. | 1 9 2 | |
| | Nov. | | | 11 | Nov | | 7 80 21 28 |
| | DEC. | . 465 | 7 8 19 4 | · | 70 | 00 40 5 | |
| |] | | 1 | | Dec | 00 10 0 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 1854. | | d. h. m. | d. h. m. | A.D. 1857. | | d. h. m. | d. h. m. |
| A. Manak | JAN | 28 23 36 | 28 19 24 | D. March | JAN | 25 14 46 | 26 2 11 |
| d. $h.$ $m.$ | FEB | 27 12 20 | 27 7 4 | March. $d. h. m.$ | FEB | 24 3 30 | 24 14 48 |
| 21 0 24 | MAR | 29 1 4 | 28 19 25 | 20 17 51 | MAR | 25 16 14 | 26 1 10 |
| | APRIL | 27 13 48 | 27 8 41 | | APRIL | 21 4 58 | 21 9 41 |
| | 0 | (12 8 10 | 12 18 15 | | MAY . | 28 17 42 | 28 17 8 |
| | MAY . | 27 2 32 | 26 23 0 | | June . | 22 6 26 | 22 0 26 |
| | JUNE . | 25 15 16 | 25 14 7 | | July. | 21 19 10 | 21 8 48 |
| | JULY. | 25 4 0 | 25 5 31 | | Aug | 20 7 54 | 19 19 0 |
| | AUG | 23 16 44 | 23 20 33 | | SEPT | 18 20 38 | 18 8 8 |
| | SEPT | 22 5 28 | 22 10 45 | | Oct | 18 9 22 | 18 0 0 |
| | Oct | 21 18 12 | 21 23 57 | | Nov | 16 22 6 | 16 18 14 |
| | 0 | 5 12 34 | 4 23 26 | | DEC | 16 10 50 | 16 18 29 |
| | Nov. | (20 6 56 | 20 12 16 | | | | |
| | DEC | 19 19 40 | 19 23 53 | 1858. | JAN | 14 28 85 | 15 8 12 |
| 1855. | JAN | 18 8 25 | 18 10 57 | c. | FEB | (13 12 19 | 14 0 49 |
| G. | FEB | 16 21 9 | 16 21 28 | | 0 | 28 6 41 | 28 0 82 |
| 21 6 13 | MAR | 18 9 53 | 18 5 37 | 20 23 40 | MAR | 15 1 8 | 15 14 40 |
| | APRIL | 16 22 37 | 16 17 45 | | APRIL | 18 18 47 | 14 1 87 |
| | 0 | § 1 16 59 | 1 6 28 | | MAY . | 13 2 31 | 18 10 14 |
| | MAY . | 16 11 21 | 16 4 31 | | June . | 11 15 15 | 11 17 19 |
| | JUNE. | 15 0 5 | 14 16 34 | | July . | 11 8 59 | 11 0 0 |
| | JULY. | 14 12 49 | 14 6 16 | | Aug | (9 16 48 | 9 7 20 |
| | Aug | 13 1 33 | 12 21 29 | | 0 | 24 11 5 | 24 16 48 |
| | SEPT | 11 14 17 | 11 13 42 | | SEPT | 8 5 27 | 7 16 26 |
| | Ост | §11 3 1 | 11 6 4 | | Ocr | 7 18 11 | 7 4 11 |
| | 0 | 25 21 23 | 25 9 36 | | Nov | 6 6 55 | 5 19 1 |
| | Nov | 9 15 45 | 9 21 51 | | DEC | 5 19 89 | 5 12 40 |
| | Dec | 9 4 29 | 9 12 29 | | | | |
| 1856. | JAN | 7 17 13 | 8 1 41 | 1859. | JAN | 4 8 28 | 481 |
| F.E. | FEB. | 6 5 57 | 6 13 21 | в. | FEB | (2217 | 8 8 26 |
| 20 12 2 | MAR. | 6 18 41 | 6 23 34 | | 0 | 17 15 29 | 17 18 15 |
| | APRIL | (5 7 25 | 5 8 38 | 21 5 28 | MAR | 4 9 51 | 4 21 17 |
| | 0 | 20 1 47 | 20 11 17 | | APRIL | 2 22 85 | 8 12 26 |
| | MAY . | 4 20 9 | 4 17 7 | | MAY . | 2 11 19 | 8 0 28 |
| | June. | 3 8 53 | 3 1 49 | | ~ | (108 | 1 9 47 |
| | JULY. | 2 21 37 | 2 11 44 | | June. | 30 12 47 | 80 17 17 |
| | Arro | 1 10 21 | 31 23 39 | | JULY. | 30 1 81 | 80 0 4 |
| | AUG | (30 23 5 | 30 14 0 | | 0 | (18 19 58 | 18 19 5 |
| | SEPT | 29 11 49 | 29 6 30 | | Aug | 28 14 15 | 28 7 18 |
| | 0 | § 14 6 11 | 14 1 0 | | SEPT | 27 2 59 | 26 15 47 |
| | Ост | (29 0 33 | 29 0 19 | | Oct | 26 15 48 | 26 2 84 |
| | Nov. | 27 13 17 | 27 18 17 | | Nov | 25 4 27 | 24 16 6 |
| ĺ | Dec | 27 2 1 | 27 11 12 | | DEC | 24 17 11 | 24 8 21 |
| | | 1 | Į. | | | | |

| 1 | 1 | | | ALVIL TIME. | | | |
|----------------------------|--------|------------------------------------|-----------------------------------|---|--------|------------------------------------|---------------------------------------|
| Mean Vernal Equinox. | Month, | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 1860. | | d. h. m. | d. h. m. | A.D. 1863. | | d. h. m. | d. h. m. |
| A.G. | JAN | 28 5 56 | 23 2 38 | D. | JAN | 19 21 5 | 19 18 12 |
| March. | 0 | (7 0 18 | 7 5 6 | $\begin{array}{cccc} \text{March.} \\ d. \ h. \ m. \end{array}$ | FEB | 18 9 50 | 18 5 27 |
| d. h. m. | FEB | [21 18 40] | 21 21 37 | 21 4 44 | MAR | 19 22 34 | 19 17 10 |
| 20 11 17 | MAR | 22 7 24 | 22 15 50 | | APRIL | 18 11 18 | 18 5 41 |
| | APRIL | 20 20 8 | 21 7 58 | | MAY . | 18 0 2 | 17 19 10 |
| | MAY. | 20 8 52 | 20 21 21 | | 0 | (1 18 24 | 2 1 57 |
| | JUNE . | 18 21 36 | 19 8 0 | | JUNE . | 16 12 46 | 16 9 45 |
| | JULY. | 18 10 20 | 18 16 39 | Ì | JULY. | 16 1 30 | 16 1 3 |
| | 0 | (2 4 42 | 1 19 57 | | Aug | 14 14 14 | 14 16 27 |
| | Aug | 16 28 4 | 17 0 17 | | SEPT | 13 2 58 | 13 7 21 |
| | SEPT | 15 11 48 | 15 7 57 | | Oct | 12 15 42 | 12 21 21 |
| | Oct | 15 0 82 | 14 16 36 | | Nov. | (11 4 26 | 11 10 23 |
| | Nov | 18 18 16 | 13 2 55 | | 0 | 25 22 48 | 25 11 20 |
| | DEC | 18 2 0 | 12 15 16 | | DEC | 10 17 10 | 10 22 32 |
| | - | | | | | | |
| 1861. F. | JAN | 11 14 44 | 11 5 46 | 1864. | JAN | 9 5 54 | 9 9 58 |
| | FEB | 10 8 29 | 9 22 6 | C.B. | FEB. | 7 18 39 | 7 20 42 |
| 20 17 6 | MAR. | 11 16 18 | 11 15 32 | 20 10 83 | MAR. | 8 7 23 | 8 6 49 |
| | APRIL | 10 4 57 | 10 9 1 | 20 10 55 | APRIL | 6 20 7 | 6 16 38 |
| | MAY. | 9 17 41 | 10 1 29 | | MAY. | 6 8 51 | 6 2 43 |
| | JUNE. | 8 6 25 | 8 16 7 | | JUNE . | 4 21 35 | 4 13 50 |
| | July. | 7 19 9 | 8 4 81 | | JULY. | 4 10 19 | 4 2 31 |
| | Aug | 6 7 58 | 6 14 58 | | Aug. | 2 23 3 | 2 17 . 0 |
| | SEPT | 4 20 37 | 5 0 11 | | SEPT | 1 11 47 | 1 8 54 |
| 1 | Oct | 4 9 21 | 4 9 5 | | \ 2 | (1 0 81 | 1 1 31 |
| | Nov | 2 22 5 | 2 18 25 | | Oct | 80 13 15 | 30 17 58 |
| | _ | 2 10 49 | 2 4 41 | | Nov | 29 1 59 | 29 9 30 |
| | DEC. O | 17 5 11 | 17 10 89 | | DEC. | 28 14 43 | 28 23 38 |
| | | 181 28 88 | 81 16 10 | | 220. | 1 | |
| 1862. | JAN | 80 12 17 | 80 4 55 | 1007 | JAN | 27 8 27 | 27 12 17 |
| R. | FEB | | { | 1865. | FEB. | 25 16 11 | 25 22 57 |
| 00 00 8* | Min | (111 | 28 18 54 | 11 | MAR. | 27 4 55 | 27 8 22 |
| 20 22 55 | MAR | (80 18 45 | 80 9 59 | 20 16 21 | | (10 23 17 | 11 6 85 |
| | APRIL | 29 2 29 | 29 1 49 | | APRIL | 25 17 89 | 25 16 50 |
| | MAY . | 28 15 18 | 28 17 45 | | MAY. | 25 6 28 | 25 1 5 |
| | 0 | (12 9 85 | 12 8 48 | | JUNE. | 28 19 7 | 23 10 7 |
| | JUNE . | 27 8 57 | 27 9 6 | | JUNE. | 23 7 51 | 22 20 51 |
| | JULY . | 26 16 41 | 26 23 18 | | Aug. | 21 20 85 | 21 9 57 |
| | Aug | 25 5 25 | 25 11 54 | | _ | 20 9 19 | 20 1 32 |
| | SEPT | 23 18 9 | 28 28 21 | | SEPT | (5 8 41 | 5 0 41 |
| | Ocr | 28 6 58 | 23 10 4 | | OCT. | 19 22 8 | 19 19 0 |
| | Nov | 21 19 87 | 21 20 84 | | Nov. | 18 10 47 | 18 13 17 |
| | 0 | 6 13 59 | 6 10 6 | | T | 17 23 31 | 18 7 4 |
| | DEC | 21 8 21 | 21 7 15 | | DEC | 1. 20 01 | |
| 1 | 1 | | | | 1 | 1. | · · · · · · · · · · · · · · · · · · · |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1866. | | d. h. m. | d. h. m. | A.D. 1869. | | d. h. m. | d. h. m. |
| G. | JAN | 16 12 16 | 16 23 13 | c. | JAN | (13 3 26 | 12 21 23 |
| d. h. m. | FEB | 15 1 0 | 15 13 3 | | 0 | 27 21 48 | 28 4 10 |
| 20 23 10 | MAR | (16 13 44 | 17 0 25 | March. | FEB | 11 16 10 | 11 16 2 |
| | 0 | 31 8 6 | 31 6 39 | d. h. m. 20 15 37 | MAR | 13 4 54 | 13 10 39 |
| | APRIL | 15 2 28 | 15 9 38 | | APRIL | 11 17 38 | 12 3 49 |
| 1 | MAY . | 14 15 12 | 14 17 20 | | MAY. | 11 6 22 | 11 18 32 |
| | June . | 13 3 56 | 13 0 28 | | JUNE . | 9 19 6 | 10 6 31 |
| | JULY. | 12 16 40 | 12 8 1 | | JULY. | (9 7 50 | 9 16 8 |
| | Aug | 11 5 24 | 10 17 9 | | 0 | 24 2 12 | 23 16 23 |
| | SEPT | (9188 | 9 4 47 | | Aug | 7 20 31 | 8 0 16 |
| } | 0 | 24 12 30 | 24 16 19 | | SEPT. | 6 9 18 | 6 7 58 |
| | Oct | 9 6 52 | 8 19 22 | | Ocr | 5 22 2 | 5 16 13 |
| | Nov | 7 19 36 | 7 12 44 | | Nov. | 4 10 46 | 4 1 46 |
| | DEC | 7 8 20 | 7 7.47 | | DEC | 3 23 30 | 3 13 9 |
| | _ | | | 1870. | JAN | (2 12 14 | (2 2 33 |
| 1867. | JAN | 5 21 4 | 6 3 2 | В. | 0 | 17 6 36 | 17 17 16 81 17 51 |
| F. | FEB | 4 9 48 | 4 20 52 | | FEB | 1 0 58 | |
| 21 3 59 | Mar | 5 22 32 | 6 12 9 | 20 21 26 | MAR | 2 13 42 | 2 10 36 |
| | 0 | (20 16 54 | 20 11 11 | | | (1 2 26 | 1 3 56 |
| | APRIL | 4 11 16 | 5 0 27 | | APRIL | (30 15 10 | 30 20 58 |
| | MAY. | 4 0 0 | 4 10 1 | | MAY . | 30 3 54 | 30 12 25 |
| | JUNE. | 2 12 44 | 2 17 39 | | JUNE . | 28 16 38 | 29 1 58 |
| | JULY. | § 2 1 28 | 2 0 21 | | 0 | (13 11 0 | 13 0 57 |
| | | (31 14 12 | 31 7 13 | | JULY. | 28 5 22 | 28 13 28 |
| | Aug | 30 2 56 | 29 15 22 | | Aug | 26 18 6 | 26 23 24 |
| | _ 0 | 13 21 18 | 14 2 55 | | SEPT | 25 6 50 | 25 8 36 |
| | SEPT | (28 15 40 | 28 1 46 | | Ocr | 24 19 34 | 24 17 51 |
| | Oct. | 28 4 21 | 27 15 8 | | Nov | 23 8 18 | 23 3 47 |
| | Nov. | 26 17 8 | 26 7 31 | | DEC | 22 21 2 | 22 14 42 |
| | DEC | 26 5 52 | 26 2 12 | | 0 | (6 15 24 | 6 23 44 |
| 4000 | | | | 1871. | JAN | 21 9 47 | 21 2 45 |
| 1868. | JAN | 24 18 37 | 24 21 46 | A. | FEB | 19 22 31 | 19 15 55 |
| | FEB | 28 7 21 | 23 16 33 | 21 3 14 | MAR. | 21 11 15 | 21 6 12 |
| 20 9 48 | Mar. | 23 20 5 | 24 9 4 | U LT | APRIL | 19 23 59 | 19 21 23 |
| | APRIL | 22 8 49 | 22 22 33 | | MAY. | 19 12 43 | 19 13 9 |
| | MAY . | 21 21 33 | 22 9 7 | | JUNE . | 18 1 27 | 18 4 47 |
| | JUNE. | 20 10 17 | 20 17 23 | | . 0 | (2 19 49 | 2 15 56 |
| | July. | 19 23 1 | 20 0 25 | | JULY . | 17 14 11 | 17 19 37 |
| | Aug | 18 11 45 | 18 7 21 | | Aug. | 16 2 55 | 16 9 13 |
| | SEPT | 17 0 29 | 16 15 13 | | SEPT | 14 15 39 | 14 21 30 |
| | Oct | 16 13 13 | 16 0 45 | | Ocr | 14 4 23 | 14 8 48 |
| | Nov. | 15 1 57 | 14 13 7 | | Nov. | 12 17 7 | 12 19 36 |
| | DEC | 14 14 41 | 14 4 3 | | DEC. | 12 5 51 | 12 6 21 |
| | 1 | | | li . | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon.) Full Ecl.) |
|--|---|---|---|--|---|---|--|
| A.D. 1872. G.F. March. d. h. ni. 20 9 3 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT | d. h. m. 10 18 35 9 7 20 9 20 4 8 8 48 { 7 21 32 22 15 54 6 10 16 5 23 0 4 11 41 3 0 28 2 13 12 1 1 56 15 20 18 80 14 40 | d. h. m. 10 17 11 9 4 10 9 15 28 8 3 8 7 15 50 23 1 46 6 5 40 5 20 31 4 12 3 3 3 28 2 18 13 1 8 8 15 7 33 30 20 50 | A.D. 1875. c. March. d. h. m. 21 2 80 | Jan Feb Mar April . May . June . July . Aug Sept Oct Nov Dec | d. h. m. 7 9 45 5 22 29 7 11 18 5 23 58 5 12 42 4 1 26 8 14 10 | d. h. m. 7 19 84 6 10 40 7 28 12 6 9 19 5 17 80 4 0 40 8 7 47 1 15 57 31 2 15 29 15 24 29 7 84 28 2 2 27 21 80 |
| 1873. E. 20 14 52 | DEC. JAN. FEB. MAR. APRIL MAY. JUNE. JULY. AUG. SEPT. ONOV. DEC. JAN. FEB. MAR. APRIL OMAY JUNE JULY. AUG. SEPT. ONOV. OCT. ONOV. | 16 15 9 | 14 9 4 13 18 42 12 6 32- 10 20 54 10 18 44 | 1876. E.A. 20 8 19 | JAN. FEB. OMAR. APRIL MAY. JUNE. JULY. AUG. OSEPT. NOV. DEC. JAN. FEB. OMAR. APRIL MAY JUNE JULY. AUG. OSEPT. OOT, NOV. DEC. | 16 8 22 14 16 7 18 4 51 27 28 18 14 17 85 18 6 19 12 19 8 11 7 47 10 20 81 9 9 15 24 8 87 | 15 4 58 18 19 57 18 7 58 11 17 8 11 0 41 9 7 88 24 1 44 7 15 2 6 28 50 5 10 49 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|----------------------------|--------|------------------------------------|---|----------------------------|--------|---|----------------|
| A.D. 1878. | | d. h. m. | d. h. m. | A.D. 1881. | | d. h. m. | d. h. m. |
| F. | JAN | 4 0 55 | 3 16 35 | B. Manah | JAN | 30 4 49 | 80 8 5 |
| | FEB | (2 13 40 | 2 10 36 | d. $h.$ $m.$ | FEB | 28 17 33 | 28 13 58 |
| d. h . m . | 0 | 17 8 2 | 17 13 53 | 20 13 23 | MAR | 30 6 17 | 30 1 7 |
| 20 19 56 | MAR. | 4 2 24 | 4 5 14 | | APRIL | 28 19 1 | 28 13 0 |
| 20 20 00 | APRIL | 2 15 8 | 2 23 7 | | MAY . | 28 7 45 | 28 1 59 |
| | | (2 3 52 | 2 15 2 | | 0 | (12 2 7 | 12 9 23 |
| | MAY . | 31 16 36 | | 1 | JUNE . | 26 20 29 | 26 16 15 |
| | JUNE . | 30 5 20 | $\begin{bmatrix} 1 & 4 & 21 \\ 30 & 15 & 8 \end{bmatrix}$ | | JULY. | 26 9 18 | 26 7 80 |
| ł | JULY. | 29 18 4 | 29 23 59 | | Aug. | 24 21 57 | 24 28 9 |
| | 0 | (13 12 26 | 13 2 41 | | SEPT. | 28 10 41 | 28 14 85 |
| , | AUG. | 28 6 48 | 28 7 57 | | | 22 23 25 | 28 5 11 |
| | SEPT. | 26 19 32 | 26 16 1 | | Oct. | | |
| | Oct | 26 8 16 | 26 1 0 | i | Nov | 21 12 9 | 21 18 47 |
| 1 | Nov. | 24 21 0 | 24 11 33 | | 7.0 | 6 6 81 | 5 19 80 |
| | n . | 24 9 44 | 23 23 56 | | DEC | 21 0 53 | 21 7 21 |
| | DEC | 24 0 44 | 20 20 00 | | | | |
| 1879. | JAN | 22 22 28 | 22 14 12 | 1882. | JAN | 19 13 38 | 19 18 54 |
| E. | FEB | 21 11 12 | 21 6 5 | A. | FEB | 18 2 22 | 18 5 88 |
| 21 1 45 | MAR | 22 23 56 | 22 22 58 | 20 19 12 | MAR | 19 15 6 | 19 15 12 |
| İ | APRIL | 21 12 40 | 21 16 2 | | APRIL | 18 8 50 | 18 0 80 |
| - | MAY . | 21 1 24 | 21 8 12 | | MAY . | 17 16 34 | 17 10 5 |
| | JUNE. | 19 14 8 | 19 22 48 | | JUNE. | 16 5 18 | 15 20 45 |
| | JULY. | 19 2 52 | 19 11 24 | | JULY. | 15 18 2 | 15 9 10 |
| | Aug | 17 15 36 | 17 22 14 | | Aug | 14 6 46 | 18 28 85 |
| ı | SEPT | 16 4 20 | 16 7 56 | | SEPT | 12 19 80 | 12 15 44 |
| | Oct | 15 17 4 | 15 17 18 | | Oct. | 12 8 14 | 12 8 49 |
| | Nov | 14 5 48 | 14 3 3 | | Nov | 10 20 58 | 11 1 50 |
| | DEC. | (13 18 32 | 13 13 34 | | DEC. | 10 9 42 | 10 17 82 |
| | 0 | 28 12 54 | 28 18 44 | | | | |
| 1000 | | 1 | | 1000 | T | 0.00.00 | 0 0 10 |
| 1880. | JAN | 12 7 16 | 12 1 0 | 1883. G. | JAN | 8 22 26 | 9 8 18 |
| | FEB. | 10 20 1 | 10 13 27 | | FEB | 7 11 11 | 7 20 51 |
| 20 7 34 | MAR | 11 8 45 | 11 2 54 | 21 1 0 | MAR | 8 23 55 | 9 7 80 |
| | APRIL | 9 21 29 | 9 17 23 | | APRIL | $\begin{cases} 7 & 12 & 39 \\ 99 & 7 & 3 \end{cases}$ | 7 16 84 |
| | MAY . | 9 10 13 | 9 8 39 | | O W | (22 7 1 | 22 18 87 |
| | June. | 7 22 57 | 8 0 17 | | MAY . | 7 1 28 | 7 0 87 |
| | 0 | (22 17 19 | 22 16 17 | . 1 | JUNE. | 5 14 7 | 5 8 80 |
| | JULY. | 7 11 41 | 7 15 35 | | JULY. | 5 2 51 | 4 17 13 |
| | Aug | 6 0 25 | 6 5 59 | | Aug. | 3 15 85 | 8 8 47 |
| | SEPT | 4 13 9 | 4 19 8 | | SEPT | 2 4 19 | 1 16 54 |
| | Oct | 4 1 53 | 4 7 9 | | | (117 3 | 1 8 40 |
| | Nov | 2 14 37 | 2 18 26 | | Oct. 0 | $\frac{16}{11}$ 11 25 | 16 8 58 |
| 0 | | [2 3 21 | 2 5 23 | | | (81 5 47 | 31 2 30 |
| | Dec. 0 | 16 21 43 | 16 18 2 | | Nov | 29 18 31 | 29 21 10 |
| | | 31 16 5 | 31 16 14 | | DEC | 29 7 15 | 29 15 17 |
| | - ' | | li li | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon (O Full Ecl.) | Mean Verual Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (C Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1884. | | d. h. m. | d. h. m. | A.D. 1887. | | d. h. m. | d. h. m. |
| F.E. | JAN | 27 19 59 | 28 7 38 | в. | JAN | 24 11 9 | 24 5 28 |
| March. d . h . m . | FEB | 26 8 43 | 26 21 27 | | 0 | (8 5 31 | 8 12 57 |
| 20 6 49 | MAR. | 26 21 27 | 27 8 36 | d. h . m . | FEB | 22 28 58 | 22 23 45 |
| | 0 | (10 15 49 | 10 13 52 | d. h. m. 21 0 16 | MAR | 24 12 37 | 24 18 1 |
| | APRIL | 125 10 11 | 25 17 32 | | APRIL | 23 1 21. | 23 10 53 |
| | MAY. | 21 22 55 | 25 0 58 | | MAY. | 22 14 5 | 23 1 30 |
| | June . | 23 11 39 | 28 7 52 | | JUNE. | 21 2 49 | 21 13 31 |
| | July. | 23 0 23 | 22 15 19 | | JULY. | 20 15 33 | 20 23 20 |
| | Aug. | 21 13 7 | 21 0 26 | | 0 | (4 9 55 | 3 23 10 |
| | SEPT | 20 1 51 | 19 12 7 | 1 2 | Aug. | 119 4 17 | 19 7 46 |
| | | (4 20 13 | 5 0 15 | | SEPT. | 17 17 1 | 17 15 51 |
| | Ocr | 19 14 35 | 19 2 54 | | Oct | 17 5 45 | 17 0 80 |
| | Nov. | 18 8 19 | 17 20 27 | | Nov. | 15 18 29 | 15 10 23 |
| 8 | DEC | 17 16 3 | 17 15 42 | | DEC | 15 7 13 | 14 21 52 |
| | DEC | 1. 10 0 | 11 10 12 | 1000 | _ | | |
| 4 4 1 | _ | | | 1888. | JAN | ∫13 19 57 | 18 11 8 |
| 1885. | JAN | 16 4 48 | 16 11 5 | 1 2.0. | _ 0 | 28 14 19 | 29 1 51 |
| D. | FEB | 14 17 82 | 15 4 56 | | FEB | 12 8 41 | 12 2 2 |
| 20 12 38 | MAR | ∫16 6 16 | 16 20 8 | 20 6 5 | MAR | 12 21 26 | 12 18 17 |
| | 0 | 131 0 38 | 30 18 59 | | APRIL | 11 10 10 | 11 11 6 |
| | APRIL | 14 19 0 | 15 8 15 | | MAY. | 10 22 54 | 11 8 38 |
| | MAY. | 14 7 44 | 14 17 38 | | June. | 9 11 88 | 9 19 8 |
| | June . | 12 20 28 | 18 1 9 | | July. | 9 0 22 | 9 8 44 |
| | July. | 12 9 12 | 12 7 48 | | 0 | 23 18 44 | 23 8 8 |
| | Aug | 10 21 56 | 10 14 45 | | A.ug. | 7 13 6 | 7 20 84 |
| | SEPT | 9 10 40 | 8 23 1 | | SEPT | 6 1 50 | 6 6 58 |
| | 0 | 24 5 2 | 24 10 19 | | Ocr | 5 14 34 | 5 16 89 |
| | Ocr | 8 28 24 | 8 9 86 | - | Nov. | 4 8 18 | 4 2 22 |
| | Nov | 7 12 8 | 6 23 7 | | DEO | 8 16 2 | 3 12 37 |
| | DEC | 7 0 52 | 6 15 81 | | | 2 4 46 | 1 28 88 |
| | | | | 1889. | JAN. O | 16 28 8 | 17 7:54 |
| 1886. | JAN | 5 18 86 | 5 10 12 | F. | | (81 17 80 | 81 11 27 |
| C. | FEB | 4 2 21 | 4 5 40 | , | FEB | | 164 |
| 20 18 27 | MAR | 5 15 5 | 6 0 16 | | | (2 6 14 | 2 0 8 |
| | APRIL | 4 8 49 | 4 16 85 | 20 11 53 | MAR. | 81 18 59 | 81 18 49 |
| | MAY . | 8 16 88 | 4 5 57 | | APRIL | 80 7 48 | 80 4 26 |
| | JUNE . | 2 5 17 | 2 16 27 | | MAY. | 29 20 27 | 29 19 45 |
| | | (1 18 1 | 2 0 45 | | JUNE . | 28 9 11 | 28 11 14 |
| | July. | 81 6 45 | 81 7 56 | | 0 | (13 8 88 | 12 28 22 |
| | Aug | 29 19 29 | 29 15 4 | | JULY. | 27 21 55 | 28 2 14 |
| | SEPT. | 28 8 13 | 27 28 12 | | Aug. | 26 10 89 | 26 16 14 |
| | Ocr | 27 20 57 | 27 9 11 | | SEPT. | 24 28 28 | 25 5 5 |
| | Nov. | 26 9 41 | 25 21 81 | , , | Ост. | 24 12 7 | 24 16 57 |
| | DEC. | 25 22 25 | 25 12 24 | | Nov. | 28 0 51 | 28 4 17 |
| | | | | II. | | 22 18 85 | 22 15 17 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Fuil Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|-----------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 1890. | | d. h. m. | d. h. m. | A.D. 1893. | | d. h. m. | d. h. m. |
| E. Manah | JAN | 21 2 19 | 21 2 9 | A | JAN | 17 17 29 | 18 3 54 |
| March. $d. h. m.$ | FEB | 19 15 3 | 19 12 47 | d. $h.$ $m.$ | FEB | 16 6 13 | 16 19 3 |
| 20 17 42 | MAR | 21 3 47 | 20 23 34 | 20 11 9 | Mar | 17 18 57 | 18 7 27 |
| - 1 | APRIL | 19 16 31 | 19 10 44 | | APRIL | 16 7 41 | 16 17 17 |
| - 1 | MAY. | 19 5 15 | 18 22 51 | | MAY . | 15 20 25 | 16 1 14 |
| | 0 | (2 23 37 | 3 9 12 | | JUNE . | 14 9 9 | 14 8 10 |
| | JUNE . | 17 17 59 | 17 12 16 | | JULY. | 13 21 53 | 13 15 9 |
| | JULY. | 17 6 43 | 17 3 0 | | Aug | 12 10 37 | 11 23 16 |
| 111 | Aug | 15 19 27 | 15 18 38 | | SEPT. | 10 23 21 | 10 9 38 |
| | SEPT | 14 8 11 | 14 10 28 | | Oct | 10 12 5 | 9 22 55 |
| | Oct | 13 20 55 | 14 1 49 | | Nov | 9 0 49 | 8 15 14 |
| | Nov | (12 9 39 | 12 16 14 | | DEC. | 8 13 33 | 8 9 53 |
| | 0 | 27 4 1 | 26 15 47 | | DEC | 0 10 00 | 0 000 |
| | DEC | 11 22 23 | 12 5 33 | | _ | | |
| | | | 0 00 | 1894. | JAN | 7 2 17 | 7 5 28 |
| 1891. | JAN | 10 11 7 | 10 17 42 | G. | FEB | 5 15 2 | 6 0 18 |
| η. | FEB | 8 23 52 | 9 4 43 | 20 16 58 | Mar | 7 3 46 | 7 16 52 |
| 20 23 31 | Mar | 10 12 36 | 10 14 40 | | 0 | (21 22 8 | 21 16 44 |
| | APRIL | 9 1 20 | 8 23 54 | | APRIL | 5 16 30 | 6 6 27 |
| | MAY. | 5 8 14 4 | 8 9 0 | | May . | 5 5 14 | 5 17 3 |
| | 0 | 28 8 26 | 23 20 50 | | JUNE . | 8 17 58 | 4 1 19 |
| | June. | 7 2 48 | 6 18 48 | | JULY. | 3 6 42 | 3 8 14 |
| | July. | 6 15 32 | 6 6 6 | | Aug | 5 1 19 26 | 1 14 56 |
| | Aug | 5 4 16 | 4 19 28 | | Aug | 31 8 10 | 30 22 28 |
| | SEPT | 3 17 0 | 8 10 54 | | 0 | (15 2 32 | 15 6 55 |
| | Ocr | 3 5 44 | 3 3 48 | | SEPT | 29 20 54 | 29 7 55 |
| | Nov | (1 18 28 | 1 21 13 | | Oct | 29 9 38 | 28 19 59 |
| | 0 | 16 12 50 | 16 2 30 | | Nov | 27 22 22 | 27 11 8 |
| | 70 | (1 7 12 | 1 14 6 | | DEC | 27 11 6 | 27 4 44 |
| | DEC | 30 19 56 | 31 5 35 | | | | |
| 1892. | Jan | 29 8 41 | 29 19 11 | 1895. | JAN. | 25 28 50 | 25 23 53 |
| С.В. | FEB | 27 21 25 | 28 6 41 | F. | FEB | 24 12 31 | 24 19 0 |
| 20 5 20 | MAR. | 28 10 9 | 28 16 20 | | 0 | (11 6 56 | 11 6 20 |
| 20 5 20 | APRIL | 26 22 53 | 27 0 37 | 20 22 46 | MAR. | 26 1 18 | 26 12 29 |
| | | (11 17 15 | | | APRIL | 24 14 2 | 25 3 18 |
| | O May. | 26 11 37 | 12 1 4 26 8 17 | 1 | MAY . | 24 2 46 | 24 15 8 |
| | JUNE. | 25 0 21 | 24 16 18 | | JUNE . | 22 15 30 | 23 0 26 |
| | JULY. | 24 13 5 | 24 1 45 | | July. | 22 4 14 | 22 8 6 |
| | Aug. | 23 1 49 | 22 13 31 | | Aug. | 20 16 58 | 20 15 14 |
| | SEPT. | | | | 0 | (4 11 20 | 4 8 30 |
| | | 21 14 33 21 3 17 | 21 4 3 | | SEPT | 19 5 42 | 18 22 55 |
| | Ocr | | 20 21 5 | | Oct. | 18 18 26 | 18 8 2 |
| | Non | 4 21 39 | 4 17 57 | | Nov. | 17 7 10 | 16 19 15 |
| | Nov | (19 16 1 | 19 15 41 | | DEC. | 16 19 54 | 16 8 52 |
| | DEC | 19 4 45 | 19 10 26 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|---|--|--|--|--|--|---|
| A.D. 1896. E.D. March. d. h. m. 20 4 35 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEG | {18 21 28 } {28 15 45 } {28 15 25 } {14 10 7 } {12 22 51 } {12 11 85 } {11 0 19} | d. h. m. 15 0 51 13 18 30 28 22 30 14 12 48 13 6 15 12 21 57 11 11 16 10 22 12 9 7 21 23 9 30 7 15 41 7 0 10 5 9 32 4 20 17 | A.D. 1899. A. March. d. h. m. 20 22 2 | Jan Feb Mar April May . June . O July . Aug Sept Oct Nov Dec | $\begin{array}{c} \textit{d. h. m.} \\ 11 \ 28 \ 48 \\ 10 \ 12 \ 32 \\ 12 \ 1 \ 16 \\ 10 \ 14 \ 1 \\ 10 \ 2 \ 45 \\ 8 \ 15 \ 29 \\ 23 \ 9 \ 51 \\ 8 \ 4 \ 18 \\ 6 \ 16 \ 57 \\ 5 \ 5 \ 41 \\ 4 \ 18 \ 25 \\ 3 \ 7 \ 9 \\ \begin{cases} 2 \ 19 \ 58 \\ 17 \ 14 \ 15 \\ \end{array}$ | d. h. m. 12 1 13 10 11 52 11 22 21 10 8 59 9 20 16 8 8 45 23 16 47 7 22 44 6 12 1 5 5 59 4 21 55 3 13 9 3 8 18 17 3 48 |
| 1897. c. 20 10 24 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEFT OCT NOV DEC | 29 10 36 27 28 20 26 12 4 26 0 48 24 18 82 24 2 16 | 3 8 38 1 22 35 8 13 58 2 6 18 1 22 52 31 14 50 30 5 26 29 18 18 28 5 35 26 15 48 26 1 41 24 11 49 23 22 31 8 2 48 | 1900. g. 21 3 51 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG. SEPT. OCT. NOV. | . 27 1 46 . 25 14 80 . 24 8 14 . 28 15 58 . 22 4 42 | 22 9 47 |
| 1898. B. 20 16 18 | O JAN. FEB. MAR. APRIV MAY JUNE O JULY AUG. SEPT. OCT. NOV DEC. | 21 3 44 22 16 28 21 5 12 20 17 56 19 6 40 { 4 1 2 18 19 24 17 8 8 | 22 9 51 20 21 54 22 10 46 21 0 87 20 15 28 19 6 44 3 23 48 18 22 3 17 12 46 16 2 27 15 15 5 14 2 55 18 14 14 | 1901. F. 21 9 88 | DEC. JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. O NOV. DEC. | 20 6 10 18 18 54 20 7 38 18 20 22 18 9 6 16 21 50 16 10 84 14 28 18 | 20 16 58 19 5 29 20 15 54 19 0 86 3 18 8 17 0 16 15 51 4 16 0 21 3 14 10 48 2 12 23 58 6 12 15 57 8 27 17 48 0 11 10 4 4 11 5 5 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|------------------------------------|----------------------------|--------|------------------------------|------------------------------|
| A.D. 1902. | | d. h. m. | d. h. m. | A.D. 1905. | | d. h. m. | d. h. m. |
| March. | JAN | 9 14 58 | 9 23 31 | А. | JAN | 6 6 8 | 5 20 48 |
| d. h. m | FEB | 8 3 43 | 8 15 58 | Manak | FEB | (4 18 53 | 4 13 33 |
| 21 15 28 | MAR | 9 16 27 | 10 5 43 | March. $d. h. m.$ | 0 | 19 13 15 | 19 21 40 |
| | APRIL | 8 5 11 | 8 16 40 | 21 8 55 | MAR | 6 7 37 | 6 7 25 |
| | 0 | 22 23 33 | 22 20 59 | | APRIL | 4 20 21 | 5 1 14 |
| | MAY. | 7 17 55 | 8 1 19 | 12 | MAY . | 4 9 5 | 4 17 50 |
| } | JUNE. | 6 6 39 | 6 8 32 | | JUNE. | 2 21 49 | 3 8 21 |
| | JULY. | 5 19 23 | 5 15 16 | | _ | (2 10 33 | 2 20 28 |
| | Aug | 4 8 7 | 3 22 41 | | JULY. | 31 23 17 | (1 6 33 |
| | SEPT | 2 20 51 | 2 7 50 | | 0 | (15 17 39 | 15 6 3 |
| | | (2 9 35 | 1 19 40 | | Aug | 30 12 1 | 30 15 22 |
| | Oct. O | 17 3 57 | 17 8 21 | | SEPT | 29 0 45 | 28 23 53 |
| | | (81 22 19 | 31 10 35 | | Ост | 28 13 29 | 28 8 56 |
| | Nov | 30 11 3 | 30 4 17 | | Nov. | 27 2 13 | 26 19 6 |
| | DEC | 29 23 47 | 29 23 40 | | DEC. | 26 14 57 | 26 6 39 |
| | | | | | | | 20 0 00 |
| 1903. | JAN | 28 12 32 | 28 19 6 | 1906. | JAN | 25 3 41 | 24 19 42 |
| D. | FEB. | 27 1 16 | 27 12 54 | G. | 0 | S 22 3 | 9 10 20 |
| 21 21 17 | 1 | 28 14 0 | 29 3 57 | | FEB | 23 16 25 | 23 10 10 |
| | 0 | (12 8 22 | 12 2 40 | 21 14 44 | Mar | 25 5 9 | 25 1 48 |
| | APRIL | 27 2 44 | 27 15 54 | | APRIL | 28 17 58 | 23 18 5 |
| | MAY. | 26 15 28 | 27 1 10 | | MAY . | 23 6 87 | 23 10 16 |
| | JUNE . | 25 4 12 | 25 8 36 | | JUNE. | 21 19 21 | 22 1 38 |
| | JULY . | 24 16 56 | 24 15 17 | 1 | JULY. | 21 8 5 | 21 15 27 |
| | Aug. | 23 5 40 | 22 22 21 | | 0 | 5 2 27 | 4 15 21 |
| | SEPT. | 21 18 24 | 21 6 49 | | Aug | 19 20 49 | 20 8 41 |
| | | 6 12 46 | 6 17 50 | | SEPT | 18 9 33 | 18 14 36 |
| | Oct. | $\begin{cases} 21 & 7 & 8 \end{cases}$ | | | Oct | 17 22 17 | 18 0 50 |
| | Nov. | 19 19 52 | 20 17 36 19 7 14 | | Nov | 16 11 1 | 16 11 2 |
| | DEC. | 19 8 36 | 19 7 14 18 23 41 | | DEC | 15 23 45 | 15 21 81 |
| | | 10 0 00 | 10 20 41 | 1907. | JAN. | (14 12 29 | 14 8 32 |
| 1004 | T. | 15 01 00 | | F. | 0 | 29 6 51 | 29 16 1 |
| 1904. c.b. | JAN | 17 21 20 | 17 18 13 | | FEB | 13 1 13 | 12 20 4 |
| | Fев | 16 10 4 | 16 13 27 | 21 20 32 | MAR. | 14 13 58 | 14 8 16 |
| 21 3 6 | | 16 22 48 | 17 7.47 | | APRIL | 13 2 42 | 12 21 19 |
| | APRIL | 15 11 32 | 15 23 55 | | MAY . | 12 15 26 | 12 11 22 |
| | MAY. | 15 0 16 | 15 13 11 | | June. | 11 4 10 | 11 2 17 |
| | JUNE . | 13 13 0 | 13 23 39 | | JULY. | (10 16 54 | 10 17 40 |
| | JULY. | 13 1 44 | 13 8 3 | | 0 | 25 11 16 | 25 6 47 |
| | AUG | 11 14 28 | 11 15 26 | | Aug | 9 5 38 | 9 8 51 |
| | SEPT | 10 3 12 | 9 22 53 | | SEPT. | 7 18 22 | 7 23 18 |
| | Oct | 9 15 56 | 9 7 21 | | Oct | 7 7 6 | 7 12 45 |
| | Nov | 8 4 40 | 7 17 35 | | Nov. | 5 19 50 | 6 1 14 |
| | DEC | 7 17 24 | 7 6 1 | | DEC. | 5 8 34 | 5 13 1 |
| | | | | | | 0 0 0# | 0 TO T |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|-------------|------------------------------------|------------------------------------|
| A.D. 1908. | | d. h. m. | d. h. m. | A.D. 1911. | | d. h. m. | d. h. m. |
| E.D. | JAN | 3 21 18 | 4 0 15 | Α. | JAN | 30 1 12 | 30 12 9 |
| d. h. m. | FEB | 2 10 3 | 2 11 2 | March. | FEB | 28 13 56 | |
| 21 2 21 | MAR. | 2 22 47 | 2 21 26 | d. h. m. 21 19 48 | MAR. | 30 2 41 | 1 3 17 |
| | APRIL | 1 11 81 | (1 7 39 | | APRIL | 28 15 25 | \30 15 32 29 1 10 |
| | | (1 0 15 | (30 18 15 | | MAY. | 28 4 9 | 28 8 51 |
| | MAY . | 30 12 59 | 30 5 49 | | JUNE . | 26 16 58 | 26 15 37 |
| | June . | 29 1 43 | 28 18 54 | | JULY . | 26 5 87 | 25 22 32 |
| | JULY . | 28 14 27 | 28 9 32 | | Aug. | 24 18 21 | 24 6 43 |
| | Aug | 27 8 11 | 27 1 19 | | SEPT. | 23 7 5 | 22 17 10 |
| | SEPT | 25 15 55 | 25 17 35 | | Ост. | 22 19 49 | 22 6 37 |
| | Ост | 25 4 39 | 25 9 31 | | Nov. | 21 8 83 | 20 23 5 |
| | Nov. | 23 17 23 | 24 0 82 | | DEC. | 20 21 17 | 20 17 51 |
| | DEC. | 23 6 7 | 28 14 15 | | DEC | 20 21 11 | 20 1. 01 |
| | | | | 1912. | Jan | 19 10 1 | 19 13 28 |
| 1909. | JAN | 21 18 51 | 22 2 33 | G.F. | FEB. | 17 22 45 | 18 8 13 |
| c. | FEB | 20 7 35 | 20 13 26 | 21 1 37 | MAR. | 18 11 29 | 19 0 40 |
| 21 8 10 | MAR | 21 20 19 | 21 23 4 | 21 1 37 | | (2 5 51 | 2 0 40 |
| | APRIL | 20 9 3 | 20 7 51 | | O April | 17 0 18 | 17 14 6 |
| | MAY . | 19 21 47 | 19 16 28 | | MAY . | 16 12 57 | 17 0 34 |
| | 0 | (8169 | 4 8 49 | | JUNE . | 15 1 41 | 15 8 44 |
| | JUNE . | 18 10 31 | 18 1 51 | | | 14 14 25 | 14 15 89 |
| | JULY . | 17 23 15 | 17 12 54 | | JULY. | 13 3 9 | 12 22 29 |
| | Aug | 16 11 59 | 16 2 12 | | AUG SEPT | (11 15 58 | 11 6 14 |
| | SEPT | 15 0 48 | 14 17 46 | | O O | 26 10 15 | 26 14 10 |
| | Ocr | 14 18 27 | 14 11 8 | | Oct | 11 4 87 | 10 15 58 |
| | Nov | (18 2 11 | 18 4 57 | | Nov. | 9 17 21 | 9 4 8 |
| | 0 | 27 20 88 | 27 11 9 | } | DEC. | 9 6 5 | 8 19 15 |
| | DEC | 12 14 55 | 12 22 19 | | DEC | 3 0 3 | 0 10 10 |
| 1910. | JAN | 11 8 89 | 11 14 8 | 1913. | JAN | 7 18 49 | 7 12 49 |
| в. | FEB | 9 16 24 | 10 8 47 | E. | FEB | 6 7 34 | 6 7 46 |
| 21 18 59 | MAR | 11 5 8 | 11 15 8 | 21 7 25 | MAR., | f 7 20 18 | 8 2 86 |
| | APRIL | 9 17 52 | 10 0 29 | | 0 | (22 14 40 | 22 14 48 |
| | MAY . | 9 6 86 | 9 8 25 | | APRIL | 6 9 2 | 6 19 50 |
| 1.1 | 0 | 24 0 58 | 24 7 46 | | MAY. | 5 21 46 | 6 10 81 |
| 1 (1 | JUNE . | 7 19 20 | 7 15 45 | | JUNE . | 4 10 30 | 4 22 18 |
| | July . | 7 8 4 | 6 28 31 | 1 | July. | 8 28 14 | 4 7 40 |
| | Aug | 5 20 48 | 5 8 50 | 1 | Avg | 2 11 58 | 2 15 82 |
| | SEPT | 4 9 82 | 3 20 37 | | | (1 0 42 | [81 22 58] |
| | Oct | 8 22 16 | 8 11 16 | | SEPT. O | 15 19 4 | 15 15 22 |
| | Nov | (2 11 0 | 2 4 81 | | İ | (30 13 26 | 80 7 0 |
| | 0 | 17 5 22 | 17 2 86 | | Ост | 80 2 10 | 29 16 25 |
| | Dec | 1 28 44 | 1 23 29 | | Nov | 28 14 54 | 28 8 47 |
| | DEC | 81 12 28 | 81 18 82 | | DEC | 28 8 88 | 27 17 24 |
| | | | | | | I. | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|---|--|--|---|--|--|
| A.D. 1914. p. March. d. h. m. 21 13 14 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OOCT NOV | d. h. m. 26 16 23 25 5 7 (11 23 29 26 17 51 25 6 35 24 19 19 23 8 3 22 20 47 21 9 31 (5 3 53 (19 22 15 19 10 59 17 23 43 17 12 27 | d. h. m. 26 9 7 25 2 19 12 7 3 26 20 3 25 18 13 25 4 46 23 18 7 23 5 16 21 14 48 4 16 29 19 28 34 19 28 34 17 18 13 17 5 6 | A.D. 1917. G. March. d. h. m. 21 6 41 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | d. h. m. \begin{array}{cccccccccccccccccccccccccccccccccccc | d. h. m. 8 10 1 23 10 11 21 20 87 28 6 89 21 16 43 21 8 27 19 15 82 5 0 6 19 5 17 17 20 87 16 12 55 16 5 28 14 21 18 14 11 51 28 12 9 |
| 1915. c. 21 19 3 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 16 1 11 14 13 55 16 2 39 14 15 23 14 4 7 12 16 51 12 5 35 10 18 19 9 7 8 8 19 47 7 8 31 6 21 15 | 15 17 21 14 6 56 15 21 45 14 18 30 14 5 36 12 21 22 12 12 2 11 1 14 9 13 0 8 23 47 7 10 10 6 20 33 | 1918. F. 21 12 30 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | 12 16 21 11 5 5 12 17 49 11 6 88 10 19 17 { 9 8 1 { 24 2 23 8 20 45 7 9 20 5 22 18 5 10 57 8 23 41 8 12 25 | 18 1 0 11 12 83 12 22 89 11 7 84 10 15 57 9 0 84 21 12 57 8 10 86 6 22 89 5 18 10 5 5 50 8 28 46 |
| 1916. B.A. 21 0 52 | JAN O FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | 1 1 40 30 14 24 (15 8 46 30 3 8 28 15 52 27 4 36 26 17 20 | 3 18 39 4 6 16 2 18 33 { 2 7 47 { 31 22 5 30 13 12 15 7 9 30 4 36 28 19 39 27 9 53 26 23 8 25 11 30 | 1919. E. 21 18 18 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT O Nov DEC | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 2 10 40 { 1 1 32 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Tull Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|-----------|------------------------------------|---------------------------------|----------------------------|--------|------------------------------------|-----------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. 1923. | | d. h. m. | d. h. m. |
| 1920. D.C. | T | 20 22 42 | 21 7 40 | G. | JAN | 17 13 52 | 17 5 12 |
| March. | JAN FEB | | 20 0 10 | | FEB | 16 2 36 | 15 21 32 |
| d. h. m. 21 0 7 | MAR. | | 20 13 48 | March. | 0 | (2 20 58 | 3 6 14 |
| 21 0 1 | APRIL | | 19 0 34 | d. h. m. 21 17 34 | MAR. | 17 15 20 | 17 14 55 |
| 1 | 1 | (3 7 16 | 3 4 0 | 21 11 01 | APRIL | 16 4 4 | 16 8 18 |
| | MAY. | 18 1 38 | 18 8 59 | | MAY. | 15 16 48 | 16 0 38 |
| | JUNE . | 16 14 22 | 16 16 1 | | June . | 14 5 32 | 14 15 6 |
| 1 | July . | 16 3 6 | 15 22 41 | | July. | 13 18 16 | 14 3 24 |
| | Aug. | 14 15 50 | 14 6 7 | | Aug. | (12 7 0 | 12 13 49 |
| | SEPT. | 13 4 34 | 12 15 23 | | 0 | 27 1 22 | 26 13 1 |
| | Oct | (12 17 18 | 12 3 20 | | SEPT. | 10 19 44 | 10 23 4 |
| | 0 | 27 11 40 | 27 16 32 | | Oct. | 10 8 28 | 10 8 3 |
| | Nov | 11 6 2 | 10 18 25 | | Nov. | 8 21 12 | 8 17 29 |
| 1 | DEC. | 10 18 46 | 10 12 12 | | DEC. | 8 9 56 | 8 3 54 |
| | | 10 10 11 | , | | | 1 | |
| 1001 | · · · · · | 9 7 80 | 9 7 37 | 1924. F.E. | JAN | 6 22 40 | 6 15 27 |
| 1921. в. | JAN | 9 7 80 7 20 14 | 8 2 58 | F.E. | FEB | 5 11 24 | 5 4 14 |
| | FEB | 9 8 59 | 9 20 40 | | -0 | 20 5 46 | 20 18 41 |
| 21 5 56 | APRIL | 7 21 48 | 8 11 35 | 20 28 28 | MAR. | 6 0 9 | 5 18 12 |
| | APRIL | 22 16 5 | 22 10 15 | | APRIL | 4 12 53 | 4 9 14 |
| 1 | MAY . | 7 10 27 | 7 28 24 | | MAY. | 4 1 37 | 4 1 0 2 16 52 |
| | JUNE. | 5 23 11 | 6 8 84 | | June . | 2 14 21 | |
| | July. | 5 11 55 | 5 15 59 | | JULY . | 81 15 49 | |
| | Aug. | 4 0 89 | 8 22 47 | | | (15 10 11 | |
| | SEPT. | 2 18 28 | 2 6 8 | | 0 | 14 | 1 |
| | OB. 2 | 2 2 7 | 1 14 45 | | Aug. | 1 | |
| ļ. | Ocr. O | 16 20 29 | 17 1 26 | | Oct. | 28 6 1 | |
| | | 81 14 51 | 81 1 44 | | Nov. | | |
| 1 | Nov. | 80 8 85 | 29 15 28 | | Dre | .85 | |
| | DEC | 29 16 19 | 29 7 52 | | | * | |
| | | | | 1925. | JAN. | . 24 20 14 | |
| 1922. | JAN | 28 5 4 | 28 2 12 | ъ. | 1 0 | 8 14 86 | |
| 1922. A. | FEB | 26 17 48 | 26 21 7 | | FEB. | . \28 8 58 | |
| 21 11 45 | MAR. | 28 6 82 | 28 15 10 | 21 5 11 | | | |
| 21 21 70 | APRIL | 26 19 16 | 27 7 7 | 1 | APRII | | 1 |
| | MAY. | 26 8 0 | 26 20 18 | | MAY | | 1 |
| | JUNE . | 24 20 44 | 25 6 50 | | JUNE | | _ |
| | JULY . | 24 9 28 | 24 15 24 | | July | | 4 14 17 |
| 1 | Aug. | | 22 28 4 | | Avg. | 3.000 | |
| | SEPT. | 21 10 56 | 21 6 51 | | SEPT. | 1 | |
| | Ocr. | 20 28 40 | 20 15 89 | | OCT. | | 1 |
| Ì | Nov. | | 19 2 6 | | Nov. | /- | The state of the same |
| | DEC. | 19 1 8 | 18 14 87 | | DEC. | | 2.00792.74 1.714 |
| 1 | | | | | 220. | | Tr. Charles |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) |
|----------------------------|--------|------------------------------------|----------------|----------------------------|---------------|-------------------------------------|-----------------------------|
| A.D. 1926. | | d. h. m. | d. h. m. | A.D. 1929. | | d. h. m. | d. h. m. |
| С. | JAN | 14 5 2 | 14 9 12 | March. | Jan | 10 20 12 | 11 2 36 |
| d, h , m . | FEB | 12 17 46 | 12 19 51 | d. $h.$ $m.$ | FEB | 9 8 56 | 9 20 19 |
| 21 11 0 | MAR | 14 6 30 | 14 5 53 | 21 4 27 | MAR | 10 21 40 | 11 11 24 |
| | APRIL | 12 19 14 | 12 15 36 | | APRIL | 9 10 24 | 9 23 28 |
| 1 | MAY . | 12 7 58 | 12 1 39 | | MAY . | 8 23 8 | 9 8 52 |
| | June . | 10 20 42 | 10 12 44 | | June . | 7 11 52 | 7 16 23 |
| | JULY. | 10 9 26 | 10 1 30 | | July. | 7 0 36 | 6 23 3 |
| | Aug | 8 22 10 | 8 16 5 | | Aug | 5 13 20 | 5 5 59 |
| | SEPT | 7 10 54 | 7 8 5 | | SEPT | 4 2 4 | 3 14 16 |
| | Oct. | 6 23 38 | 7 0 48 | | Ocr | 3 14 48 | 3 0 52 |
| | Nov. | 5 12 22 | 5 17 19 | | Nov | 2 3 32 | 1 14 27 |
| | DEC. | 5 1 6 | 5 8 52 | l | D | 1 16 16 | 1 7 1 |
| | | | | | DEC | (31 5 0 | 31 1 48 |
| | T | 3 13 50 | 3 22 57 | | | | |
| 1927. | JAN. | 2 2 35 | 2 11 22 | 1903. | JAN | 29 17 44 | 29 21 22 |
| В, | FEB. | 3 15 19 | 3 22 5 | 1903. | FEB. | 28 6 29 | 28 16 0 |
| 21 16 49 | MAR. | - | 2 7 21 | 01 10 16 | MAR. | 29 19 13 | 30 8 18 |
| | APRIL | 2 4 3 | | 21 10 16 | 1 | (13 13 35 | 13 8 29 |
| | MAY . | 1 16 47 | 12 | | 0 | 28 7 57 | 28 21 36 |
| | | 31 5 31 | 30 23 54 | Į. | APRIL May. | 27 20 41 | 28 7 57 |
| ļ | 0 | 14 23 53 | 15 10 44 | | | 26 9 25 | 26 16 7 |
| | JUNE . | 20 0 40 | 29 8 57 | | JUNE. | 25 22 9 | 25 23 8 |
| | JULY . | 1 | 28 19 47 | | JULY. | 24 10 58 | 24 6 8 |
| | A.UG. | 00 0 00 | 27 9 3 | | Aug. | 22 23 37 | 22 14 8 |
| | SEPT. | | 26 0 48 | II. | SEPT. | 7 17 59 | 7 21 33 |
| | Ocr. | . 25 21 11 | 25 18 47 | 11 | 0 | 22 12 21 | 22 0 1 |
| | Nov. | . 24 9 55 | 24 12 48 | | Oct. | 21 1 5 | 20 12 26 |
| | 0 | 9 4 17 | 8 19 54 | | Nov. | 20 13 49 | 20 3 31 |
| | DEC. | . \23 22 39 | 24 6 34 | | DEC. | 20 13 40 | 20 001 |
| | | , | | | | | |
| 1928. | JAN. | . 22 11 24 | • | 1931. | Jan. | | 18 20 56 |
| A.G. | FEB. | . 21 0 8 | 21 12 18 | D. | FEB. | 17 15 18 | 17 15 34 |
| 20 22 38 | MAR. | . 21 12 52 | 1 | 21 16 4 | MAR. | l. | 19 10 4 |
| | APRII | 20 1 36 | 20 8 30 | | 0 | § 2 22 24 | 1 |
| | MAY | . 19 14 20 | 19 16 6 | | APRIL | 1. | 1 |
| } . | 0 | 3 8 42 | 3 14 23 | | MAY | | 17 17 35 |
| | June | . 18 3 4 | 17 23 11 | | JUNE | 1 | Į. |
| | July | . 17 15 48 | 17 6 48 | | July | | |
| | Aug. | . 16 4 32 | 15 16 3 | | Aug. | 1 | |
| | SEPT. | . 14 17 16 | 14 3 52 | | SEPT. | 17 | |
| | Oct. | . 14 6 0 | 13 18 41 | - | 0 | 27 2 48 | |
| | Nov. | . (12 18 44 | 12 12 13 | 1 | | . 11 21 10 | 1 |
| | 0 | 27 13 | 3 27 11 24 | . | Nov. | 1 | |
| | DEC. | . 12 7 28 | 12 7 23 | | DEC. | . 9 22 38 | 9 12 26 |
| | | | | | | | |
| | | | | _! | | | |

| | | | 1 | | T I |
|--------|---|---|--|--|--|
| Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New True New Moon. (O Full Ecl.) |
| | d. h. m. | d. h. m. | A.D. 1934. | | d. h. m. d. h. m. |
| JAN | 8 11 22 | 8 1 57 | Gt. | JAN | (15 17 43 15 16 25 |
| FEB | 7 0 6 | 6 17 17 | Moroh | 0 | (30 12 5 30 18 51 |
| MAR. | (71250 | 7 10 0 | d. h. m. | FEB | 14 6 27 14 3 21 |
| 0 | 22 7 12 | 22 15 24 | 21 9 31 | MAR | 15 19 11 15 14 31 |
| APRIL | 6 1 34 | 6 3 16 | | APRIL | 14 7 55 14 2 12 |
| MAY. | 5 14 18 | 5 20 4 | | MAY. | 13 20 39 13 14 51 |
| JUNE . | 4 3 2 | 4 1 1 29 | | JUNE . | 12 9 23 12 4 42 |
| JULY . | 3 15 46 | 4 0 55 | | JULY. | f11 22 7 11 19 37 |
| | (2 4 30 | 2 12 21 | | 0 | 26 16 29 26 14 37 |
| AUG. | 31 17 14 | 31 22 18 | | Aug | 10 10 51 10 11 9 |
| 0 | (15 11 36 | 14 28 84 | | SEPT | 8 23 35 9 2 36 |
| SEPT | 30 5 58 | 80 7 83 | | Oct | 8 12 19 8 17 25 |
| Ocr | 29 18 42 | 29 17 4 | | | |
| Nov | 28 7 26 | 28 2 58 | | | |
| DEC | 27 20 10 | 27 18 58 | | 1 | 1 |
| | | | | | |
| JAN. | 26 8 55 | 26 2 3 | | | |
| | 24 21 89 | 24 15 18 | | | |
| MAR. | 26 10 28 | 26 5 26 | 1 | | |
| APRIL | 24 28 7 | 24 20 36 | | | |
| MAY . | 24 11 51 | 24 12 17 | | | |
| JUNE . | 28 0 85 | 23 3 51 | | | |
| July . | 22 13 19 | 22 18 89 | | | |
| | | 21 8 13 | | | |
| | | 19 20 32 | | | • |
| | | 19 7 54 | | | |
| Nov. | 17 16 15 | 17 18 47 | 47- | | |
| DEC. | . 17 4 59 | 17. 5 84 | | | |
| l | | 1 | | | |
| | | | | | |
| | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG OCT NOV DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV NOV | Month. (O Full Ecl.) d. h. m. Jan. 8 11 22 Feb. 7 0 6 Mar. 6 1 34 May 5 14 18 June 4 3 2 July 3 15 46 Aug. 15 11 36 Sept. 0 6 27 20 Jan. 26 8 55 Feb. 24 21 39 Mar. 26 10 28 April May 24 11 51 June 28 0 85 July 21 2 3 Sept. 19 14 47 Oct. 19 3 31 Nov. 17 16 15 | Month. (O Full Ecl.) (O Full E | Month. (O Full Ecl.) (O Full E | Month. Moon. Moon. Full Ecl. Corn. Full Ecl. Corn. Full Ecl. Corn. Full Ecl. Corn. |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|-----------------------------------|
| B.C. 572. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m |
| C. | JAN | 7 10 2 | 7 4 3 | 569. | JAN | (5 1 12 | 5 11 45 |
| d. $h.$ $m.$ | FEB | 5 22 46 | 5 16 54 | G.F. | 0 | 19 19 34 | 19 15 42 |
| 27 14 0 | MAR | (7 11 30 | 7 6 43 | March. | FEB | 3 13 56 | 3 22 36 |
| | 0 | 22 5 52 | 22 16 34 | d. h, m. 27 7 26 | MAR. | 4 2 40 | 4 7 43 |
| | APRIL | 6 0 14 | 5 21 29 | | APRIL | 2 15 24 | 2 15 38 |
| | MAY . | 5 12 58 | 5 12 51 | | | (2 4 8 | 1 23 13 |
| | June . | 4 1 42 | 4 4 14 | | MAY. | 31 16 52 | 31 7 30 |
| | JULY. | 3 14 26 | 3 19 1 | | June . | 30 5 36 | 29 17 32 |
| | | (2 3 10 | 2 8 47 | | 0 | (14 23 58 | 15 5 58 |
| | Aug | 81 15 54 | 31 21 26 | | JULY. | 29 18 20 | 29 6 8 |
| | 0 | (15 10 16 | 14 20 39 | | Aug | 28 7 4 | 27 21 31 |
| | SEPT | 80 4 38 | 30 9 15 | | SEPT | 26 19 48 | 26 15 18 |
| | Oct | 29 17 22 | 29 20 32 | | Ocr | 26 8 32 | 26 10 5 |
| | Nov | 28 6 6 | 28 7 32 | | Nov | 24 21 16 | 25 4 40 |
| | DEC | 27 18 50 | 27 18 19 | | DEC | 24 10 0 | 24 21 34 |
| 57 1. | Jan | 26 7 35 | 26 4 56 | 568. | 0 | (8 4 23 | 7 21 31 |
| В. | FEB. | 24 20 19 | 24 15 87 | E. | JAN | 22 22 45 | 23 11 54 |
| 27 19 49 | MAR. | 26 9 3 | 26 2 52 | | FEB | 21 11 29 | 21 23 27 |
| 21 10 10 | APRIL | 24 21 47 | 24 15 15 | 27 13 15 | MAR | 23 0 13 | 23 8 34 |
| | MAY. | 24 10 31 | 24 15 15 | | APRIL | 21 12 57 | 21 16 3 |
| | JUNE . | 22 23 15 | 22 20 4 | | MAY . | 21 1 41 | 20 22 50 |
| • | JULY. | 22 11 59 | 22 11 54 | | June. | (19 14 25 | 19 6 2 |
| | Aug. | 21 0 43 | 21 3 45 | | 0 | 4 8 47 | 4 15 12 |
| | SEPT. | 19 13 27 | 19 18 59 | | JULY. | 19 3 9 | 18 14 45 |
| | Oct | 19 2 11 | 19 9 13 | | Aug | 17 15 53 | 17 1 57 |
| | Nov. | 17 14 55 | 17 22 16 | | SEPT | 16 4 37 | 15 16 12 |
| | DEC | 17 3 39 | 17 10 5 | } | Ocr | 15 17 21 | 15 9 28 |
| | 220. 1 | 1. 0 00 | 1. 10 0 | | Nov | 14 6 5 | 14 4 30 |
| 570. | JAN | (15 16 24 | 15 20 44 | | DEC | 13 18 49 | 14 0 2 |
| Δ. | 0 | 30 10 46 | 30 15 38 | -07 | т | 10 7 04 | 10 10 10 |
| | FEB | 14 5 8 | 14 6 20 | 567. | JAN | 12 7 84 | 12 18 19 |
| 28 1 38 | MAR. | 15 17 52 | 15 15 21 | | FEB | 10 20 18 | 11 10 1 |
| 100 | APRIL | 14 6 36 | 14 0 27 | 27 19 4 | MAR. | 12 9 2 | 12 22 38 |
| | MAY . | 13 19 20 | 13 10 31 | | APRIL | 10 21 46 | 11 '8 24 |
| | JUNE . | 12 8 4 | 11 22 23 | | MAY. | 10 10 30 | 10 16 7 |
| | JULY . | (11 20 48 | 11 12 23 | | JUNE. | 8 23 14 | 8 22 58 |
| | 0 | 26 15 10 | 26 14 39 | | JULY. | 8 11 58 | 8 5 44 |
| | Aug | 10 9 82 | 10 4 23 | | AUG | 7 0 42 | 6 13 47 |
| | SEPT. | 8 22 16 | 8 21 39 | | SEPT | 5 13 26 | 5 0 0 |
| | Oct. | 8 11 0 | 8 15 8 | | Oct | 5 2 10 | 4 13 1 |
| | Nov. | 6 23 44 | 7 7 46 | | Nov | 3 14 54 | 3 4 55 |
| | DEC. | 6 12 28 | 6 22 47 | | 50 | (18 9 16 | 18 14 39 |
| | 220 | 012 20 | 0 44 41 | | DEC | 3 8 38 | 2 23 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|---------------------|----------------------------|--------------|------------------------------------|------------------------------------|
| B.C. 566. | Jan | d. h. m. | d. h. m. 1 18 26 | B.C. 563. | Jan | d. h. m. 27 20 16 | d. h. m. 27 14 29 |
| Ç. | • | (31 5 6 | 31 13 10 | March. | FEB | 26 9 0 | 26 3 31 |
| d. $h.$ $m.$ | FEB | | | d. h. m. | .0 | (13 3 22 | 18 15 46 |
| 28 0 53 | Mar | $ \begin{cases} 1 & 17 & 50 \\ 81 & 6 & 84 \end{cases} $ | 2 5 52 31 19 45 | 27 18 19 | MAR APRIL | 26 10 28 | 27 17 31 26 8 25 |
| | APRIL | 29 19 18 | 30 6 45 | | MAY. | 25 23 12 | 25 23 47 |
| | 0 | (14 13 40 | 14 5 25 | | June . | 24 11 56 | 24 15 2 |
| | MAY. | 29 8 2 | 29 15 27 | | JULY. | 24 0 40 | 24 5 33 |
| | June. | 27 20 46 | 27 22 54 | | ΑυG | 22 13 24 | 22 19 2 |
| | JULY. | 27 9 30 | 27 6 9 | | 0 | 5 6 7 46 | 5 18 0 |
| | Aug | 25 22 14 | 25 14 16 | | SEPT | (21 2 8 | 21 7 32 |
| | SEPT | 24 10 58 | 24 0 1 | | Oct | 20 14 52 | 20 19 17 |
| | Oct | 23 23 42 | 23 11 58 | | Nov | 19 3 36 | 19 6 34 |
| | 0 | 5 7 18 4 | 8 2 28 | | DEC | 18 16 20 | 18 17 26 |
| | Nov | 22 12 26 | 22 2 18 | 562. | JAN. | 17 5 5 | 17 3 58 |
| | DEC | 22 1 10 | 21 18 47 | E. | FEB. | 15 17 49 | 15 14 20 |
| 565. | JAN | 20 13 55 | 20 12 40 | | 0 | (2 12 11 | 3 1 42 |
| B.A. | FEB | 19 2 39 | 19 6 42 | 28 0 8 | MAR | 17 6 33 | 17 0 57 |
| 27 6 42 | Mar. | 19 15 23 | 19 23 43 | | APRIL | 15 19 17 | 15 12 26 |
| | APRIL | 18 4 7 | 18 14 44 | | MAY . | 15 8 1 | 15 1 17 |
| | 0 | (2 22 29 | 2 15 41 | | June. | 18 20 45 | 18 15 40 |
| | MAY . | 17 16 51 | 18 3 19 | | July . | 13 9 29 | 13 7 15 |
| ľ l | June. | 16 5 35 | 16 13 40 | | Aug | (11 22 13 | 11 28 32 |
| | JULY. | 15 18 19 | 15 22 33 | | 0 | 26 16 35 | 26 10 26 |
| | Aug | 14 7 3 | 14 6 56 | | SEPT | 10 10 57 | 10 15 16 |
| | SEPT | 12 19 47 | 12 15 43 | | Oct | 9 23 41 | 10 6 20 |
| | Oct | (12 8 31 | 12 1 32 | | Nov | 8 12 25 | 8 20 14 |
| 1 | 0 | {27· 2 53 | 27 7 16 | | DEC | 8 1 9 | 8 8 46 |
| | Nov | 10 21 15 | 10 12 46 | 561. | JAN | 6 13 54 | 6 20 O |
| | DEC | 10 9 59 | 10 1 35 | D.C | FEB. | (5 2 38 | 5 5 53 |
| 564. | JAN | 8 22 44 | 8 15 55 | | 0 | 19 21 0 | 20 4 19 |
| G. | FEB | 7 11 28 | 7 7 80 | 27 5 57 | MAR | 5 15 22 | 5 14 55 |
| 27 12 31 | MAR | 9 0 12 | 8 23 51 | | APRIL | 4 4 6 | 3 23 38 |
| | APRIL | 7 12 56 | 7 16 15 | | MAY. | 3 16 50 | 3 8 54 |
| | MAY . | 7 1 40 | 7 7 50 | | June . | 2 5 34 | 1 19 37 |
| | JUNE . | 5 14 24 | 5 21 58 | , | | (1 18 18 | 1 8 29 |
| | JULY. | 5 3 8 | 5 10 24 | | JULY. | {31 7 2 | 30 23 36 |
| | Aug. | 3 15 52 | 8 21 23 | | 0 | (15 1 24 | 14 22 33 |
| | SEPT. | 2 4 36 | 2 7 34 | | AUG | 29 19 46 | 29 16 30 |
| | 0 | (1 17 20 | 1 17 35 | | SEPT | 28 8 30 | 28 10 15 |
| | Ocr. | {31 6 4 | 31 3 55 | | Oct | 27 21 14 | 28 3 41 |
| | Nov. | 29 18 48 | 29 14 50 | | Nov | 26 9 58 | 26 19 47 |
| 1 | DEC. | 29 7 32 | 29 2 19 | | DEC | 25 22 42 | 26 9 51 |
| | 1 | | - 4 | 1 | | | 1 |

N

| Mean Vernal Equinox. | Month | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|-----------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|----------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 557. | | d. h. m. | d. h. m. |
| 560. | | 24 11 26 | 24 21 41 | F.E. | JAN | 22 2 35 | 22 7 48 |
| March. | JAN | 23 0 10 | 23 7 29 | March. | FEB | 20 15 20 | 21 1 32 |
| d. h. m. | FEB. | 24 12 54 | 21 15 43 | d. h. m. 27 5 12 | MAR | 21 4 4 | 21 16 49 |
| 27 11 46 | MAR. | | 22 23 11 | <u></u> | APRIL | 19 16 48 | 20 5 11 |
| 1 | APRIL | 23 1 38 | 22 6 51 | | MAY . | 19 5 32 | 19 14 56 |
| | MAY . | 22 14 22 | 20 15 49 | | 0 | (2 23 54 | 2 15 8 |
| 1 | June . | 21 3 6 | - | | June. | 17 18 16 | 17 22 58 |
| | Jura . | 20 15 50 | - | | July. | 17 7 0 | 17 6 18 |
| | Aug | 19 4 34 | 18 17 6 | | Aug. | 15 19 44 | 15 14 3 |
| | SEPT | 17 17 18 | 17 9 52 | | | 14 8 28 | 13 23 3 |
| | Oct | 17 6 2 | 17 4 29 | | SEPT | 13 21 12 | 13 9 57 |
| | Nov | 15 18 46 | 15 23 33 | | Oct | 12 9 56 | 11 23 7 |
| i | DEC | 515 7 30 | 15 17 31 | | Nov. | 11 22 40 | 11 14 29 |
| | 0 | (30 ,1 52 | 29 19 8 | | DEC | 11 22 40 | 11 14 25 |
| | T | 13 20 15 | 14 9 14 | 556. | JAN | 10 11 25 | 10 7 35 |
| 559. | JAN | 12 8 59 | 12 22 4 | D. | FEB | 9 0 9 | 9 1 23 |
| Α. | FEB. | 13 21 43 | 14 8 13 | 27 11 1 | MAR. | 10 12 53 | 10 18 57 |
| 27 17 35 | 1 | 12 10 27 | 12 16 18 | 21 11 - | APRIL | (9 1 37 | 9 10 56 |
| | APRIL | 11 23 11 | 11 28 13 | | 0 | 28 19 59 | 23 19 15 |
| | MAY . | | 10 6 1 | | MAY . | 8 14 21 | 9 0 44 |
| | JUNE . | 10 11 55 | 25 11 50 | | JUNE . | 7 3 5 | 7 12 14 |
| | _ 0 | 10-1 | 9 13 50 | | JULY . | 6 15 49 | 6 21 54 |
| ľ | JULY . | 10 0 39 | 7 23 45 | | Aug. | 5 4 33 | 5 6 39 |
| | Aug | 8 13 23 | 6 12 31 | | SEPT. | 3 17 17 | 3 15 20 |
| ļ | SEPT | 7 2 7 | | | Oct. | (3 6 1 | 3 0 46 |
| 1 | Oct | 6 14 51 | 1 - | | 001. | 18 0 23 | 18 2 1 |
| 1 | Nov | 5 3 35 | 4 22 45 | | Nov. | 1 18 45 | (1 11 22 |
| i i | DEC. | 13 | 4 18 19 | | 1404. | (1 7 29 | 80 28 21 |
| 1 | 0 | 19 10 41 | 19 9 8 | | DEC | 80 20 13 | 1 |
| | T | 3 5 3 | 3 13 25 | | | (00 20 20 | 00 |
| 558. g. | JAN. | AF | 2 6 27 | 555. | JAN. | 29 8 57 | 29 8 81 |
| 1 | FEB. | | 3 20 32 | c. | FEB. | 27 21 41 | 27 19 17 |
| 27 23 2 | | | 2 7 35 | 27 16 50 | | 29 10 25 | 29 11 30 |
| | APRIL | | | 2. 10 00 | 0 | (13 4 47 | 13 7 48 |
| 1 | MAY . |) | | | APRIL | 27 28 9 | 1 |
| | | (30 20 43 | | | MAY | | 1 |
| | -0 | (14 15 5 | 14 13 7 | 1 | JUNE | | |
| | JUNE | | | | JULY | | |
| | JULY | | 28 13 23 | | Aug. | 1 | |
| | A.va. | | 26 22 31 | | | | |
| | SEPT. | | 25 10 11 | | SEPT. | (7 9 1 | |
| | Oct. | 1 | | | 0 | 13 | 11 |
| | Nov. | | | | | | T |
| | 0 | 8 19 29 | 1 | H | Nov. | . 20 16 17 | |
| | DEC. | . 23 13 51 | 23 12 44 | 1 | DEC. | . 20 5 | L 20 0 54 |
| | | | 1 | 11 | | 1 | l . |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|----------|------------------------------|--------------------|----------------------------|-----------------|------------------------------------|------------------------------------|
| B.C. 554. | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| в. | JAN | 18 17 46 | 18 12 33 | B.C. | T | | |
| March. $d. h. m.$ | FEB. | 17 6 30 | 17 0 51 | 551. E. | JAN | 15 8 55 | 15 20 18 |
| 27 22 39 | MAR. | 18 19 14 | 18 14 2 | March. | FEB. | (30 3 17 | 29 23 28 |
| | 0 | (2 13 36 | 3 0 16 | d. h. m. 27 16 5 | MAR. | 13 21 40 | 14 6 58 |
| | APRIL | 17 7 58 | 17 4 15 | 27 10 5 | APRIL | 15 10 24 | 15 15 44 |
| | MAY. | 16 20 42 | 16 19 18 | | | 13 23 8 | 13 23 19 |
| | JUNE . | 15 9 26 | 15 10 43 | | MAY . June . | 13 11 52 | 13 6 36 |
| | JULY. | 14 22 10 | 15 1 48 | | JULY. | 12 0 36 | 11 14 42 |
| | Aug. | 13 10 54 | 13 16 5 | | O O | 11 13 20 | 11 0 39 |
| | SEPT. | (11 23 38 | 12 5 21 | | Avg | 10 7 42 | 26 13 20 |
| | 0 | 26 18 0 | 26 4 35 | | SEPT | 10 2 4 | 9 13 18 |
| | Oct. | 11 12 22 | 11 17 44 | | | 8 14 48 | 8 4 52 |
| | Nov. | 10 1 6 | 10 5 25 | | Oct | 8 3 32 | 7 22 51 |
| | DEC. | 9 13 50 | 9 16 30 | , | Nov | 6 16 16 | 6 18 2 |
| | DEC | 9 10 00 | 9 10 50 | | DEC | 6 5 0 | 6 12 51 |
| 553. | JAN | 8 2 35 | 8 3 8 | 550. | JAN | (4 17 45 | 5 5 50 |
| A.G. | FEB. | 6 15 19 | 8 3 8 6 13 21 | D. | 0 | 19 12 7 | 19 5 52 |
| 27 4 28 | MAR. | 7 4 3 | 6 23 30 | | FEB | 3 6 29 | 3 20 5 |
| | APRIL | | | 27 21 54 | MAR., | 4 19 13 | 5 7 26 |
| | MAY . | 5 16 47 5 5 81 | 5 10 12 4 22 5 | | ABRIL | 3 7 57 | 3 16 20 |
| | JUNE . | | | | MAY . | 2 20 41 | 2 23 36 |
| | JULY. | 3 18 15 3 6 59 | 3 11 34 3 2 37 | | _ | (1 9 25 | 1 6 15 |
| | JULY, | (1 19 43 | | | June. | 30 22 9 | 30 13 26 |
| | Aug., |] | 1 18 43 | | 0 | (15 16 81 | 15 22 6 |
| | SEPT | 29 21 11 | 31 11 3 | | JULY . | 30 10 53 | 29 22 14 |
| | Oct | | 80 2 55 | | Aug | 28 23 37 | 28 9 84 |
| | Nov. | 29 9 55 27 22 89 | 29 17 40 28 7 8 | | SEPT | 27 12 21 | 26 23 59 |
| | DEC | 27 11 23 | 28 7 8 27 18 56 | | Ocr | 27 1 5 | 26 17 16 |
| | DEC | 27 11 25 | 27 18 96 | | Nov | 25 13 49 | 25 12 29 |
| 552. | T | 00 0 5 | 00 2 01 | | DEC | 25 2 33 | 25 8 1 |
| F. | JAN | 26 0 7 | 26 5 21 | | | | |
| | 0 | 9 18 29 | 9 23 5 | 549. с.в. | Jan | 23 15 17 | 24 2 10 |
| 27 10 17 | FEB. | 24 12 51 | 24 14 35 | | FEB | 22 4 1 | 22 17 44 |
| | MAR | 26 1 35 | 25 23 8 | 27 3 43 | MAR | 22 16 45 | 28 6 11 |
| | APRIL | 24 14 19 | 24 7 48 | | APRIL | 21 5 29 | 21 15 51 |
| | MAY . | 24 8 8 | 23 17 30 | | MAY, | 20 18 13 | 20 23 32 |
| · | JUNE. | 22 15 47 | 22 5 9 | | JUNE. | 19 6 57 | 19 6 19 |
| | JULY. | 22 4 31 | 21 19 10 | | JULY. | 18 19 41 | 18 18 20 |
| | ^ | 5 22 58 | 5 22 27 | | Aug | 17 8 25 | 16 21 88 |
| | Aug | (20 17 15 | 20 11 23 | | SEPT | 15 21 9 | 15 8 4 |
| | SEPT | 19 5 59 | 19 5 4 | | Oct | 15 9 53 | 14 21 12 |
| | Oct | 18 18 43 | 18 23 1 | | Nov | ∫13·22 37 | 13 18 7 |
| | Nov. | 17 7 27 | 17 16 6 | | 0 | 28 16 59 | 28 23 33 |
| | DEC | 16 20 11 | 17 7 21 | | DEC | 13 11 21 | 18 7 12 |

| | | | | | | | |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|----------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) |
| B.C. 548. | | d. h. m. | d. h. m. | B.C. 545. | | d. h. m. | d. h. m. |
| March. | JAN | 12 0 5 | 12 2 13 | E.D. | JAN | 9 15 16 | 9 10 59 |
| d. $h.$ $m.$ | FEB | 10 12 50 | 10 20 38 | d. $h.$ $m.$ | FEB | 8 4 0 | 7 22 40 |
| 27 9 32 | MAR | 12 1 34 | 12 13 8 | 27 2 58 | MAR | (8 16 44 | 8 11 4 |
| | APRIL | 10 14 18 | 11 2 55 | | 0 | 23 11 6 | 23 23 30 |
| | MAY . | (10 3 2 | 10 13 55 | | APRIL | 7 5 28 | 7 0 30 |
| | 0 | 24 21 24 | 24 12 14 | | MAY . | 6 18 12 | 6 14 59 |
| | JUNE . | 8 15 46 | 8 22 45 | | JUNE . | 5 6 56 | 5 6 14 |
| | JULY . | 8 4 30 | 8 6 25 | | July. | 4 19 40 | 4 21 38 |
| | Aug | 6 17 14 | 6 14 1 | | Aug. | 3 8 24 | 3 12 36 |
| | SEPT | 5 5 58 | 4 22 28 | | SEPT | (1218 | 2 2 41 |
| | Ост. | 4 18 42 | 4 8 29 | | 0 | 16 15 30 | 16 1 42 |
| | Nov. | (3 7 26 | 2 20 33 | | 0 | (1 9 52 | 1 15 46 |
| | 0 | 18 1 48 | 18 10 59 | | Oct | 30 22 36 | 31 4 1 |
| | DEC | 2 20 10 | 2 10 47 | | Nov | 29 11 20 | 29 15 30 |
| | | | | | | | |
| | _ | (1 8 55 | 1 2 57 | | DEC | 29 0 4 | 29 2 19 |
| 547. | JAN | 30 21 39 | 30 20 19 | 544. | JAN | 27 12 48 | 27 12 32 |
| G. | FEB | | | c. | FEB | 26 1 32 | 25 22 25 |
| | | (1 10 23 | 1 13 54 | | 0 | (12 19 54 | 13 9 5 |
| 27 15 21 | MAR | 30 23 7 | 31 6 36 | 27 8 47 | MAR | 27 14 16 | 27 8 29 |
| | APRIL | 29 11 51 | 29 21 31 | | APRIL | 26 3 0 | 25 19 26 |
| | 0 | (14 6 13 | 13 22 58 | | MAY . | 25 15 44 | 25 7 56 |
| | MAY . | 29 0 35 | 29 10 12 | | JUNE . | 24 4 28 | 23 22 12 |
| | JUNE . | 27 13 19 | 27 20 51 | | JULY . | 23 17 12 | 28 13 55 |
| | JULY. | 27 2 3 | 27 6 9 | | Aug | 22 5 56 | 22 6 27 |
| | Aug. | 25 14 47 | 25 14 59 | | | 6 0 18 | 5 14 17 |
| Y | SEPT. | 24 3 31 | 24 0 11 | | SEPT | 120 18 40 | 20 22 56 |
| | Oct. | 23 16 15 | 23 10 17 | | Oct | 20 7 24 | 20 14 34 |
| | 0 | (7 10 37 | 7 15 17 | | Nov | 18 20 8 | 19 4 53 |
| | Nov. | 22 4 59 | 21 21 36 | | DEC | 18 8 52 | 18 17 34 |
| | DEC. | 21 17 43 | 21 10 12 | E40 | T | 16 01 07 | |
| | | | | 543. | JAN. | 16 21 37 | 17 4 39 |
| 546. | JAN | 20 6 27 | 20 0 4 | | FEB | 15 10 21 | 15 14 17 |
| F. | FEB | 18 19 11 | 18 15 4 | 07 14 00 | M | 2 4 43 | 2 11 31 |
| 27 21 10 | MAR | 20 7 55 | 20 6 51 | 27 14 36 | MAR | 16 23 5 | 16 22 52 |
| | APRIL | 18 20 39 | 18 22 52 | | APRIL | 15 11 49 | 15 7 9 |
| | MAY . | 18 9 23 | 18 14 21 | | MAY . | 15 0 33 | 14 16 1 |
| 1 | June . | 16 22 7 | 17 4 39 | | JUNE. | 13 13 17 | 13 2 30 |
| | JULY. | 16 10 51 | 16 17 28 | | JULY. | 13 2 1 | 12 15 16 |
| | Ang. | 14 23 35 | 15 5 0 | | Aug | 11 14 45 | 11 6 31 |
| | SEPT. | 13 12 19 | 13 15 44 | | 0 | 126 9 7 | 26 6 37 |
| | OCT. | 18 1 3 | 13 13 44 | | SEPT | 10 3 29 | 9 23 45 |
| | Nov. | 11 13 47 | 11 12 50 | | Oct | 9 16 13 | 9 17 58 |
| | DEC. | 11 2 31 | 10 23 44 | | Nov. | 8 4 57 | 8 11 50 |
| | | 11 2 31 | TO 70 44 | | DEC | 7 17 41 | 8 4 15 |
| | | | | 1 | | t : | |

| Mean | | Mean New | True New | Mean | | Mean New | True New |
|----------|---------|---------------|---------------|--------------------|--------|------------------------|-----------|
| Vernal | Month. | Moon. | Moon. | Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. |
| Equinox. | | (O Full Ecl.) | (O Full Ect.) | Equinox. | | (O E un Beily | (|
| B.C. | | | | | | | |
| 542. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| A. | JAN | 6 6 26 | 6 18 25 | 539. | JAN | 2 21 36 | 2 20 38 |
| March. | FEB | 4 19 10 | 5 6 6 | D. | FEB | 1 10 20 | 1 15 22 |
| d. h. m. | | 6 7 54 | 6 15 37 | March. | MAR. | 2 23 4 | 3 8 50 |
| 27 20 25 | MAR | | | d. h. m. 27 13 51 | | 1 11 48 | 1 23 55 |
| | APRIL | 4 20 38 | 4 23 30 | 21 15 51 | APRIL | | 1 12 16 |
| 1 | MAY . | 4 9 22 | 4 6 40 | | MAY . |) | |
| | June. | 2 22 6 | 2 14 7 | | | (30 13 16 | 30 22 8 |
| | T-77 77 | 5 2 10 50 | 1 22 59 | | 0 | §14 7 38 | 13 21 52 |
| | JULY. | 31 23 34 | 31 10 14 | | JUNE. | 29 2 0 | 29 6 23 |
| | Aug | 30 12 18 | 30 0 25 | | JULY. | 28 14 44 | 28 14 3 |
| 111 | SEPT | 29 1 2 | 28 17 25 | ł | Aug | 27 3 28 | 26 22 9 |
| | Oct | 28 13 46 | 28 12 19 | 1 | SEPT | 25 16 12 | 25 7 28 |
| | Nov. | 27 2 30 | 27 7 37 | | Oct | 25 4 56 | 24 18 34 |
| | DEC. | 26 15 14 | 27 1 42 | | Nov. | 23 17 40 | 23 7 42 |
| | DEC | **O TO TH | - 1 X2 | | DEC. | 23 6 24 | 22 22 48 |
| | 0 | (10 9 36 | 10 3 41 | | 2200 | | |
| 541. | JAN | 25 3 58 | 25 17 23 | 538. | JAN | 21 19 8 | 21 15 25 |
| G.F. | | | | c. | FEB | 20 7 52 | 20 8 47 |
| | FEB | 23 16 42 | 24 6 5 | 27 19 40 | MAR | 21 20 36 | 22 1 52 |
| 27 2 14 | MAR | 24 5 26 | 24 16 1 | | APRIL | 20 9 20 | 20 17 40 |
| | APRIL | 22 18 10 | 22 23 53 | | 0 | (5 3 42 | 4 22 37 |
| | MAY. | 22 6 54 | 22 6 38 | | MAY . | 19 22 4 | 20 7 31 |
| | JUNE . | 20 19 38 | 20 13 26 | | | 18 10 48 | 18 19 14 |
| 1 | 0 | (514 0 | 5 18 33 | | JUNE. | 17 23 32 | 18 5 18 |
| | JULY . | 20 8 22 | 19 21 20 | | JULY . | | |
| | Aug | 18 21 6 | 18 7 22 | | AUG. | 16 12 16 | 16 14 30 |
| l li | SEPT | 17 9 50 | 16 20 17 | | SEPT. | 15 1 0 | 14 23 40 |
| 1.0 | Oct | 16 22 34 | 16 12 16 | | Oct | §14 18 44 | 14 9 27 |
| | Nov | 15 11 18 | 15 6 44 | | 0 | 29 8 6 | 29 9 52 |
| | DEC | (15 0 2 | 15 2 16 | | Nov | 18 2 28 | 12 20 13 |
| | 0 | 29 18 24 | 29 17 55 | | DEC | 12 15 12 | 12 8 7 |
| | | (20 10 24 | 20 1. 00 | 537. | JAN | 11 3 57 | 10 21 11 |
| 540. | JAN | 13 12 47 | 13 21 16 | B.A. | FEB. | 9 16 41 | 9 11 21 |
| E. | FEB. | 12 1 31 | 12 14 10 | 27 1 29 | | 10 5 25 | 10 2 30 |
| 27 8 3 | | 13 14 15 | 14 4 6 | 21 1 29 | MAR. | 1 | 8 18 15 |
| | MAR. | 1 | | | APRIL |) | 1 |
| | APRIL | 12 2 59 | 12 15 2 | | 0 | 23 12 31 | 1 |
| 1 | MAY. | 11 15 43 | 11 23 33 | | MAY . | 8 6 53 | 8 9 59 |
| | JUNE. | §10 4 27 | 10 6 42 | | June . | 6 19 87 | 7 0 57 |
| | 0 | 24 22 49 | 24 19 38 | | JULY. | 6 8 21 | 6 14 41 |
| | JULY. | 9 17 11 | 9 13 33 | | Aug | 4 21 5 | 5 8 5 |
| | Aug | 8 5 55 | 7 21 12 | | SEPT | 8 9 49 | 8 14 26 |
| | SEPT | 6 18 39 | 6 6 35 | | Oct | (2 22 33 | 8 1 15 |
| | Oct | 6 7 23 | 5 18 25 | | 0 | 17 16 55 | 17 9 8 |
| 1 | Nov | 4 20 7 | 4 8 59 | | Nov | 1 11 17 | ſ 1 11 56 |
| | DEC | (4 8 51 | 4 2 2 | | | (101 | 30 22 45 |
| | 0 | 19 3 13 | 19 9 42 | | DEC | 80 12 45 | |
| | | | | | | | |

| Vernal Equinox. | Month. | Mean New | True New | Mean | | Mean New | True New |
|--------------------|--------|------------------------|------------------------|--------------------|-----------|---|----------|
| B.C. | | Moon. (○ Full Ecl.) | Moon. (○ Full Ecl.) | Vernal Equinox. | Month. | (O Full Ecl.) | Moon. |
| 536. | , | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| G. | JAN | 29 1 30 | 28 20 56 | 533. | JAN | 26 16 40 | 27 4 46 |
| March. d. h. m. | FEB | 27 14 14 | 27 8 40 | D.C. | 0 | (10 11 2 | 10 7 9 |
| | Mar | 29 2 58 | 28 21 15 | March. $d. h. m.$ | FEB | 25 5 24 | 25 15 11 |
| | 0 | (12 21 20 | 13 7 49 | 27 0 44 | MAR | 25 18 8 | 25 23 38 |
| | APRIL | 27 15 42 | 27 10 59 | | APRIL | 24 6 52 | 24 6 55 |
| | MAY . | 27 4 26 | 27 1 47 | | MAY . | 23 19 36 | 23 13 58 |
| | JUNE . | 25 17 10 | 25 17 13 | | June . | 22 8 20 | 21 21 57 |
| | JULY . | 25 5 54 | 25 8 38 | | JULY . | 21 21 4 | 21 7 55 |
| | Aug | 23 18 38 | 23 23 27 | | 0 | (5 15 26 | 5 20 53 |
| 5 | SEPT | 22 7 22 | 22 13 22 | | Aug | 20 9 48 | 19 20 38 |
| | 0 | (7 1 44 | 6 12 40 | | SEPT | 18 22 32 | 18 12 22 |
| | Ocr | 21 20 6 | 22 2 17 | | Ост | 18 11 16 | 18 6 36 |
| 1 | Nov | 20 8 50 | 20 14 17 | | Nov | 17 0 0 | 17 2 0 |
| 3 | Dec | 19 21 34 | 20 1 27 | | DEC | 16 12 44 | 16 20 57 |
| 535. | Jan | 18 10 18 | 18 11 51 | 532. | Jan | (15 1 28 | 15 18 56 |
| _ 1 | FEB. | 16 23 2 | 16 21 37 | в. | 0 | 29 19 50 | 29 14 6 |
| | MAR. | 18 11 46 | 18 7 15 | | FEB | 13 14 12 | 14 4 6 |
| 1 - | APRIL | 17 0 30 | 16 17 25 | 27 6 33 | MAR | 15 2 56 | 15 15 16 |
| 1 | MAY. | 16 13 14 | 16 4 58 | | APRIL | 18 15 40 | 13 23 56 |
| i i | JUNE. | 15 1 58 | 14 18 9 | | MAY . | 13 4 24, | 18 7 4 |
| | JULY . | 14 14 42 | 14 9 13 | | JUNE. | 11 17 8 | 11 13 42 |
| 1 | Aug | 13 3 26 | 13 1 37 | | JULY . | (11 5 52 | 10 20 56 |
| | SEPT. | 11 16 10 | 11 18 29 | | 0 | 26 0 14 | 26 5 6 |
| 1. | Ост | 11 4 54 | 11 10 55 | | Aug | 9 18 36 | 9 5 51 |
| 1: | Nov | 9 17 38 | 10 2 10 | | SEPT | 8 7 20 | 7 17 21 |
| 1. | DEC | 9 6 22 | 9 15 48 | | Ост | 7 20 4 | 7 7 54 |
| | | | | | Nov | 6 8 48 | 6 1 16 |
| 534. | Jan. | 7 19 7 | 8 3 41 | | DEC | 5 21 32 | 5 20 26 |
| - | FEB | (6 7 51 | 6 13 51 | | _ | | |
| | 0 | 21 2 13 | 21 6 23 | 531. A. | JAN | 4 10 17 | 4 15 53 |
| 27 18 56 | Mar | 7 20 35 | 7 22 43 | | FEB | 2 23 1 | 3 9 54 |
| | APRIL | 6 9 19 | 6 6 49 | 27 12 22 | MAR | 4 11 45 | 5 1 17 |
| L | MAY . | 5 22 3 | 5 15 5 | | APRIL | 3 0 29 | 3 13 37 |
| | JUNE . | 4 10 47 | 4 0 31 | | MAY . | 2 13 13 | 2 23 13 |
| 1. | JULY. | 3 23 31 | 3 12 1 | | JUNE . | $\begin{cases} 1 & 1 & 57 \\ 0.0 & 1.1 & 1.1 \end{cases}$ | 1 6 55 |
| | Aug | (2 12 15 | (224 | | _ | (30 14 41 | 30 13 51 |
| | 0 | 17 6 37 | 17 6 24 | | JULY. | 30 3 25 | 29 21 6 |
| ١. | C-n- | § 1 0 59 | (31 18 32 | | Aug | 28 16 9 | 28 5 39 |
| 1 | SEPT | 30 13 43 | 30 12 36 | | SEPT | 27 4 53 | 26 16 17 |
| | Ост | 30 2 27 | 30 7 1 | | Oct | 26 17 37 | 26 5 32 |
| | Nov | 28 15 11 | 29 0 27 | | Nov | 25 6 21 | 24 21 28 |
|]] | DEC | 28 3 55 | 28 15 52 | | O T)== | $\begin{cases} 10 & 0.43 \\ 24.10 & 7 \end{cases}$ | 10 8 25 |
| | | | | | DEC | (24 19 5 | 24 15 18 |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|-------------------|--------|-------------------|---------------------|-------------------|--------|-------------------|----------------|
| Equinox. | ľ | (O Full Ecl.) | O Full Ect.) | Equinox. | | (O Full Ecl.) | Fun Ec., |
| B.C. 530. | | d. h. m. | d. h. m. | B.C. 527, | | d. h. m. | d. h. m. |
| G. | JAN | 23 7 49 | 23 9 53 | _ c. | JAN | 19 22 59 | 19 19 34 |
| March. | FEB | 21 20 33 | 22 3 57 | March. $d. h. m.$ | FEB | 18 11 43 | 18 6 43 |
| d. h. m. 27 18 11 | MAR. | 23 9 17 | 23 20 13 | 27 11 37 | MAR. | 20 0 27 | 19 18 31 |
| 21 10 11 | APRIL | 21 22 1 | 22 9 56 | | 0 | (3 18 49 | 4 7 2 |
| | MAY. | 21 10 45 | 21 21 0 | | APRIL | 18 13 11 | 18 7 23 |
| | 0 | (5 5 7 | 4 19 4 | | MAY. | 18 1 55 | 17 21 31 |
| | June . | 19 23 29 | 20 6 3 | | JUNE . | 16 14 39 | 16 12 40 |
| | July. | 19 12 13 | 19 14 · 1 | | July. | 16 3 23 | 16 4 17 |
| | Aug. | 18 0 57 | 17 21 59 | | Aug. | 14 16 7 | 14 19 43 |
| | | | | | | (13 4 51 | 13 10 25 |
| | SEPT | 16 13 41 | | | SEPT. | 27 23 13 | 27 9 48 |
| | Oct | 16 2 25 | | | 1 - | 12 17 35 | 13 0 6 |
| | Nov | 14 15 9 | 14 5 12 29 19 28 | | Nov. | 11 6 19 | 11 12 46 |
| | ~ o | 29 9 31 | | | | 10 19 4 | 11 0 27 |
| | DEC | 14 3 53 | 13 19 14 | | DEC | 10 19 4 | 11 0 2. |
| 529. | JAN | 12 16 38 | 12 10 59 | 526. | JAN | 9 7 48 | 9 11 8 |
| F.E. | FEB | 11 5 22 | 11 8 50 | в. | FEB | 7 20 32 | 7 21 0 |
| 27 0 0 | Mar | 11 18 6 | 11 20 57 | 27 17 26 | MAR | (9 9 16 | 9 6 24 |
| | APRIL | 10 6 50 | 10 13 21 | | 0 | 24 3 38 | 24 16 21 |
| | MAY . | 9 19 34 | 10 4 11 | | APRIL | 7 22 0 | 7 15 55 |
| | 0 | 21 18 56 | 24 6 13 | | MAY . | 7 10 44 | 7 2 26 |
| | JUNE . | 8 8 18 | 8 17 3 | | JUNE . | 5 23 28 | 5 14 87 |
| | JULY . | 7 21 2 | 8 4 3 | | JULY . | 5 12 12 | 5 4 47 |
| | Aug | 6 9 46 | 6 18 49 | | Aug. | 4 0 56 | 3 20 42 |
| | SEPT | 4 22 30 | 4 28 9 | | SEPT. | 4 0 40 40 | 2 13 41 |
| | Ocr | 4 11 14 | 4 8 45 | | 0 | 17 8 2 | 16 22 35 |
| | Nov | (2 23 58 | 2 19 7 | | | 1 2 2 24 | 2 6 43 |
| | 0 | 17 18 20 | 17 23 20 | | Ocr. | (31 15 8 | 81 22 58 |
| | D | 2 12 42 | (2 6 27 | | Nov. | 30 8 52 | 80 13 83 |
| | DEC | | 81 18 47 | | DEC. | 29 16 36 | 80 2 20 |
| | | (1 1 26 | | | | 28 5 21 | 28 13 15 |
| 528. | JAN | 30 14 11 | 30 8 9 | 525. | JAN. | 26 18 5 | |
| D. | FEB | | 28 22 32 | A.V. | FEB. | 12 12 27 | |
| | | (1 2 55 | | 00.00.22 | 100 | Kama a 40 | 1 |
| 27 5 49 | MAR | 80 15 89 | | 26 23 15 | | 07 10 00 | |
| | APRIL | 29 4 23 | 29 5 27 | | APRIL | | |
| | | (13 22 45 | | | MAY | 00 01 1 | |
| | MAY. | 28 17 7 | 28 20 50 | | JUNE | 00 0 45 | 1 |
| | June . | 27 5 51 | 27 11 21 | 1 | JULY | 01 00 00 | |
| | JULY. | 26 18 35 | 27 0 38 | | Aug. | • | |
| | Aug. | | 25 12 45 | | 0 | 5 16 5 | |
| | | | 24 0 2 | | SEPT. | | |
| | SEPT | 23 20 3 | 28 10 58 | | Ост. | . 19 28 57 | |
| | Oct | | 1 | | Nov. | | |
| | Nov. | 21 21 31 | | | DEC. | . 18 1 25 | 18 12 39 |
| | DEC. | 21 10 15 | 21 8 40 | II . | 1 | | 1 |

| | | | | 011111 | | | |
|----------------------------|--------|----------------|----------------|----------------------------|--------|-------------------|------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | | True New Moon. |
| B.C. 524. | | d. h. m. | d. h. m. | B.C. 521. | | d. h. m. | d. h. m. |
| March. | JAN. | 16 14 9 | 17 2 50 | C.B. | JAN | 14 5 19 | 14 4 25 |
| a. h. m | FEB. | 15 2 53 | 15 14 21 | March. $d. h. m.$ | FEB | 12 18 3 | 12 22 47 |
| 27 5 4 | MAR. | 16 15 37 | 16 23 34 | 26 22 30 | MAR | 13 6 47 | 13 15 57 |
| | APRIL. | 15 4 21 | 15 7 10 | | APRIL | 11 19 31 | 12 6 54 |
| | MAY . | 14 17 5 | 14 14 7 | | MAY. | 11 8 15 | 11 19 16 |
| | JUNE. | 13 5 49 | 12 21 26 | | JUNE . | (9 20 59 | 10 5 18 |
| | JULY. | 12 18 33 | 12 6 15 | | 0 | 24 15 21 | 24 4 38 |
| • | Aug. | 11 7 17 | 10 17 33 | | JULY. | 9 9 43 | 9 18 51 |
| | SEPT | 9 20 1 | 9 7 54 | | Aug. | 7 22 27 | 7 21 58 |
| | Oct. | 9 8 45 | 9 1 6 | | SEPT. | 6 11 11 | 6 6 22 |
| | Nov. | 7 21 29 | 7 20 12 | | Oct. | 5 23 55 | |
| | DEC. | 7 10 13 | 7 15 38 | | Nov. | 1 | 5 16 1 4 8 16 |
| | | , _0 _0 | . 20 00 | | DEC. | 4 12 39 4 1 23 | |
| 523. | JAN. | (5 22 58 | 6 9 48 | 1 | DEC | 4 1 25 | 3 16 18 |
| E. | 0 | 20 17 20 | 20 12 9 | 520. | JAN | 2 14 8 | (274 |
| | FEB. | 4 11 42 | 5 1 24 | A. | JAN | 2 14 0 | 31 28 11 |
| 27 10 53 | MAR. | 6 0 26 | 6 13 56 | | FEB | 1 . 2 52 | |
| | APRIL | 4 13 10 | 4 23 40 | 27 4 19 | MAR. | 2 15 36 | 2 16 -2 |
| | MAY. | 4 1 54 | 4 7 23 | | | (1 4 20 | 1 8 42 |
| | June. | 2 14 38 | 2 14 6 | • | APRIL | 30 17 4 | |
| | 1 | 2 3 22 | 1 20 55 | | MAY . | 30 5 48 | 1 0 19 30 14 14 |
| • | July O | 16 21 44 | 17 1 20 | | JUNE . | 28 18 32 | 29 2 16 |
| | | 31 16 6 | 31 4 56 | | JULY. | 28 7 16 | 28 12 47 |
| | Aug | 30 4 50 | 29 15 9 | | Aug. | 26 20 0 | 26 22 29 |
| ٠. | SEPT. | 28 17 34 | 28 4 14 | | SEPT. | 25 8 44 | 25 8 7 |
| | Oct. | 28 6 18 | 27 20 19 | | Ост. | 24 21 28 | 24 18 15 |
| | Nov. | 26 19 2 | 26 14 43 | | 0 | (8 15 50 | 8 17 50 |
| j | DEC. | 26 7 46 | 26 10 10 | | Nov. | 23 10 12 | 23 5 8 |
| | | | | | DEC. | 22 22 56 | 22 16 52 |
| 522. | 0 | 10 2 8 | 10 2 43 | | | | |
| ъ. | JAN. | 24 20 31 | 25 5 0 | 519. | JAN | 21 11 41 | 21 5 30 |
| | FEB. | 23 9 15 | 23 21 43 | G. | FEB | 20 0 25 | 19 19 5 |
| 27 1 6 4 2 | MAR. | 24 21 59 | 25 11 31 | 27 10 8 | MAR | 21 13 9 | 21 9 37 |
| | APRIL | 23 10 43 | 23 22 21 | | APRIL | 20 1 53 | 20 0 55 |
| 1 | MAY . | | 23 6 54 | | 0 | (4 20 15 | 4 22 56 |
| | | | 21 14 9 | | MAY . | 19 14 37 | 19 16 26 |
| | 0 1 | 6 6 33 | 6 2 11 | . | June . | 18 3 21 | 18 7 31 |
| | | 2 | 20 21 13 | | JULY . | 17 16 5 | 17 21 38 |
| 1 | Aug. | | 19 5 9 | | Aug. | 16 4 49 | 16 10 34 |
| 1 | | | 17 14 48 | | SEPT | 14 17 33 | 14 22 81 |
| | Oct | | 17 2 47 | | Oct. | (14 6 17 | 14 9 50 |
| | Nov. | | 15 17 21 | | 1_ | 29 0 39 | 28 17 3 |
| . | _ 1 | | 15 10 11 | | Nov. | 10 10 | 12 20 52 |
| . | 9. | | 30 18 33 | | DEC. | | 12 7 44 |
| | 1 | | | | . | | |
| | | | 104 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|----------|------------------------------------|-----------------------------------|
| B.C. 518. | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| F. | JAN | 10 20 29 | 10 18 28 | B.C. | ~ | | |
| March. | FEB. | 9 9 13 | 9 5 13 | 515. B. | JAN | 7 11 39 | 8 0 16 |
| d. h. m. 27 15 57 | MAR. | 10 21 57 | 10 16 20 | March. | FEB | 6 0 23 | 6 13 2 |
| 21 10 01 | APRIL | 10 21 31 | 9 4 21 | d. h. m. | 0 | 20 18 45 | 20-14-42 |
| | 0 | 24 5 8 | 24 15 15 | 27 9 23 | MAR. | 7 13 7 | 7 23 13 |
| | MAY . | 8 23 25 | 8 17 38 | | APRIL | 6 1 51 | 6 7 28 |
| | June . | 7 12 9 | 7 8 13 | | MAY . | 5 14 85 | 5 14 25 |
| | JULY . | 7 0 53 | 6 23 45 | | JUNE. | 4 3 19 | 3 21 20 |
| | Aug. | 5 13 37 | 5 15 33 | | JULY. | 3 16 3 | 3 5 15 |
| | SEPT. | 4 2 21 | | | | 1(| 1 15 14 |
| | OCT. | (815 5 | 4 6 57 3 21 28 | | A.u.g. O | 16 23 9 | 17 4 81 |
| | 001. | 18 9 27 | 17 20 52 | | 0 | 81 17 81 | 31 4 6 |
| | Nov. | 2 8 49 | 2 10 53 | | SEPT | 30 6 15 | 29 20 2 |
| | 1107. | (1 16 83 | 1 23 10 | | Ocr | 29 18 59 | 29 14 26 |
| | DEC | 1 | | | Nov. | 28 7 43 | 28 9 58 |
| | | 81 5 17 | 31 10 20 | | DEC | 27.20 27 | 28 4 58 |
| 517. | JAN | 29 18 2 | 29 20 28 | 514. | JAN | 26 9 12 | 26 21 56 |
| ĸ.D. | FEB | 28 6 46 | 28 5 48 | Α. | 0 | ∫10 3 34 | 9 22 13 |
| 26 21 46 | MAR | 28 19 30 | 28 14 54 | | FEB | L24 21 56 | 25 11 57 |
| | APRIL | 27 8 14 | 27 0 36 | 27 15 12 | MAR | 26 10 40 | 26 22 57 |
| | MAY . | 26 20 58 | 26 11 42 | | APRIL | 24 28 24 | 25 7 28 |
| | JUNE . | 25 9 42 | 25 0 47 | | MAY . | 24 12 8 | 24 14 31 |
| | JULY . | 24 22 26 | 24 15 57 | | June . | 23 0 52 | 22 21 10 |
| | Aug | 28 11 10 | 28 8 40 | | JULY. | 22 13 36 | 22 4 8 |
| | SEPT | 21 28 54 | 22 2 2 | | 0 | 6 7 58 | 6 12 9 |
| | Ocr | 21 12 83 | 21 19 1 | | Aug | l21 2 20 | 20 13 38 |
| | Nov | 20 1 22 | 20 10 41 | | SEPT | 19 15 4 | 19 1 19 |
| | DEC | 19 14 6 | 20 0 31 | | Ocr | 19 3 48 | 18 15 58 |
| | | | | | Nov | 17 16 32 | 17 9 20 |
| 516. | JAN | 18 2 50 | 18 12 19 | | DEC | 17 5 16 | 17 4 24 |
| c. | FEB. | 16 15 84 | 16 22 12 | | | | |
| | | (8 9 56 | 8 18 88 | 513. | JAN | 15 1 8 0 | 15 28 38 |
| 27 8 84 | MAR. | 18 4 18 | 18 6 41 | G.F. | FEB | 14 6 44 | 14 17 2 |
| J UZ | APRIL | 16 17 2 | 16 14 24 | 26 21 1 | MAR. | 14 19 28 | 15 8 40 |
| | MAY. | 16 5 46 | 15 22 20 | | APRIL | 18 8 12 | 18 20 54 |
| | JUNE . | 14 18 80 | 14 7 83 | | MAY . | 12 20 56 | 18 6 29 |
| | JULY . | 14 7 14 | 13 18 58 | | JUNE. | 11 9 40 | 11 14 18 |
| | Aug. | (12 19 58 | 12 9 7 | | JULY . | 10 22 24 | 10 21 26 |
| | A.UG | 27 14 20 | 27 14 26 | | Aug | 9 11 8 | 9 4 5 |
| | SEPT. | 11 8 42 | 11 1 50 | | SEPT | 7 23 52 | 7 13 48 |
| | OCT. | 10 21 26 | 10 20 16 | | Oct | 7 12 36 | 7 0 40 |
| | Nov. | 9 10 10 | 9 15 4 | | Nov | 6 1 20 | 5 13 58 |
| | DEC. | 8 22 54 | 9 8 45 | | DEC | 5 14 4 | 5 5 39 |
| | DEC. | 0 22 04 | 9 0 40 | | 0 | 120 8 26 | 20 17 19 |

| B.C. 512. E. March. d. h. m. 27 2 49 | Jan., | d. h. m. | | | | (| (O Full Ecl.) |
|---|--------|-------------|-----------|--------------|--------|-----------|---------------|
| March. | TAN | u. 11. 111. | d. h. m. | B.C. | - | d. h. m. | d. h. m. |
| d. h. m. | Ozza. | 4 2 49 | 3 23 10 | 509. B.A. | JAN | 1 17 59 | 1 17 32 |
| 27 2 49 | FEB | 2 15 33 | 2 17 26 | March. | | (31 6 43 | 31 4 3 |
| | MAR | 4 4 17 | 4 11 10 | d. h. m. | FEB. | 29 19 27 | 29 14 39 |
| | APRIL | 2 17 1 | 3 3 12 | 26 20 16 | MAR | 80 8 11 | 30 1 52 |
| | MAY . | 5 2 5 45 | 2 16 51 | | . 0 | 14 2 33 | 14 14 27 |
| | MAI. | 31 18 29 | (1 4 4 | | APRIL | (28 20 55 | 28 14 14 |
| | 0 | £ 15 12 51 | 15 1 57 | | MAY . | 28 9 39 | 28 4 3 |
| 1 | JUNE . | (30 7 13 | (30 13 22 | | JUNE. | 26 22 23 | 26 19 10 |
| | JULY. | 29 19 57 | 29 21 43 | | JULY. | 26 11 7 | 26 11 4 |
| | Aug | 28 8 41 | 28 6 5 | | Aug. | 24 23 51 | 25 3 0 |
| | SEPT | 26 21 25 | 26 15 17 | | SEPT | 23 12 35 | 23 18 18 |
| | Ост | 26 10 9 | 26 1 48 | | 0 | 8 6 57 | 7 18 3 |
| | Nov | 24 22 53 | 24 13 56 | | Oct | 23 1 19 | 23 8 33 |
| | 0 | 5 9 17 15 | 10 3 59 | | Nov | 21 14 8 | 21 21 34 |
| | DEC | 24 11 37 | 24 3 42 | | DEC | 21 2 47 | 21 9 20 |
| | | | | 508. | JAN | 19 15 82 | 19 19 51 |
| 511. | JAN | 23 0 22 | 22 18 58 | G. | FEB | 18 4 16 | 18 5 20 |
| D. | FEB | 21 13 6 | 21 11 15 | 27 2 5 | MAR. | 19 17 0 | 19 14 15 |
| 27 8 38 | MAR. | 23 1 50 | 23 3 53 | | 0 | (3 11 22 | 8 28 27 |
| | APRIL | 21 14 34 | 21 20 0 | | APRIL | 18 5 44 | 17 23 18 |
| | MAY . | 21 3 18 | 21 10 49 | | MAY . | 17 18 28 | 17 9 25 |
| | _ 0 | § 4 21 40 | 4 13 30 | | JUNE . | 16 7 12 | 15 21 21 |
| | JUNE . | (19 16 2 | 19 23 54 | | JULY . | 15 19 56 | 15 11 80 |
| 1 | JULY. | 19 4 46 | 19 11 20 | | Aug | 14 8 40 | 14 8 89 |
| | Aug | 17 17 80 | 17 21 35 | | SEPT | (12 21 24 | 12 21 2 |
| | SEPT | 16 6 14 | 16 7 26 | | 0 | 27 15 46 | 27 7 1 |
| | Oct | 15 18 58 | 15 17 28 | | Oct | 12 10 8 | 12 14 35 |
| | Nov | (14 7 42 | 14 4 4 | | Nov | 10 22 52 | 11 7 14 |
| - 0.0 | 0 | 29 2 4 | 29 7 24 | | DEC | 10 11 36 | 10 22 10 |
| | DEC | 13 20 26 | 13 15 20 | 507. | JAN. | 9 0 20 | 9 10 58 |
| 510. | Jan | 12 9 10 | 12 3 18 | F. | FEB. | 7 13 4 | 7 21 41 |
| | FEB. | 10 21 54 | 10 16 7 | 27 7 54 | Mar. | (9 1 48 | 9 6 88 |
| l | MAR. | 12 10 38 | 12 5 53 | | 0 | 23 20 10 | 24 1 80 |
| | APRIL | 10 23 22 | 10 20 35 | | APRIL | 7 14 32 | 7 14 26 |
| | MAY . | (10 12 6 | 10 11 55 | | MAY . | 7 8 16 | 6 21 59 |
| | 0 | 25 6 28 | 25 6 0 | | June . | 5 16 0 | 5 6 18 |
| | JUNE . | 9 0 50 | 9 3 17 | | JULY . | 5 4 44 | 4 16 28 |
| | JULY. | 8 13 34 | 8 18 4 | | Aug | 3 17 28 | 3 5 15 |
| | Aug | 7 2 18 | 7 7 52 | • | SEPT | (2 6 12 | 1 20 50 |
| 1 : | SEPT | 5 15 2 | 5 20 34 | | 0 | 17 0 34 | 16 28 11 |
| | Oct | 5 3 46 | 5 8 26 | | | (1 18 56 | 1 14 42 |
| | Nov | 3 16 30 | 3 19 47 | | Oct | 31 7 40 | 81 9 89 |
|] | DEC. | 3 5 14 | 3 6 47 | | Nov. | 29 20 24 | 80 4 12 |
| | - 1 | - | | | DEC. | 29 9 8 | 29 20 59 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | Trne New Moon. O,Full Ecl.) |
|--|-----------------|---|---|------------------------------|---------------|--|---------------------------------------|
| B.C. 506. E. March. d. h. m. | JAN FEB | d. h. m. 27 21 53 26 10 37 | d. h. m. 28 11 7 26 22 28 | B.C. 503. A. March. | O Jan | d. h. m. { 9 18 41 | d. h. m. 10 3 18 24 12 9 |
| 27 13 42 | MAR APRIL | 27 23 21 26 12 5 | 28 7 25 26 14 46 | d. h. m. 27 7 9 | FEB | 23 1 47 24 14 31 | 23 6 5 |
| | MAY . June . | 26 0 49 24 13 33 | 25 21 32 24 4 48 | | APRIL MAY. | 23 3 15 22 15 59 | 23 13 45 23 2 11 |
| | JULY. | 24 2 17 | 23 13 39 | | June . | 21 4 43 | 21 12 30 |
| | Aug | 22 15 1 | 22 1 3 | | O July. | $\begin{cases} 5 & 23 & 5 \\ 20 & 17 & 27 \end{cases}$ | 5 11 31 20 21 23 |
| | SEPT | 21 3 45 20 16 29 | 20 15 33 20 8 54 | | Aug. | 19 6 11 | 19 5 51 |
| | Nov. | 19 5 13 | 19 4 7 | | SEPT | 17 18 55 | 17 14 46 |
| | DEC | 18 17 57 | 18 23 38 | | Nov. | 17 7 39 15 20 23 | 17 0 42 15 12 4 |
| | | 4 0 40 | /== == 40 | | DEC. | 15 9 7 | 15 0 56 |
| 505. D.C. | JAN | 17 6 42 | 17 17 46 31 20 31 | | _ | 10.01.71 | 10 15 16 |
| 2.0. | FEB | 15 19 26 | 16 9 15 | 502. _G . | JAN FEB | 13 21 51 12 10 35 | 13 15 16 12 6 49 |
| 26 19 31 | MAR | 16 8 10 | 16 21 38 | 27 12 58 | MAR. | 13 23 19 | 13 23 5 |
| | APRIL MAY. | 14 20 54 14 9 38 | 15 7 13 14 14 51 | | APRIL | 12 12 3 | 12 15 28 |
| | June . | 12 22 22 | | | MAY . June . | 12 0 47 10 13 31 | 12 6 52 10 20 55 |
| | July . | ∫12 11 6 | 1 | | JULY. | 10 2 15 | |
| | A ==== | 10 23 £0 | | | Aug | 1 | |
| | Aug | 9 12 34 | 1 | | SEPT. | 7 3 43 6 16 27 | |
| | Oct | 9 1 18 | 1 | 1 | Nov. | 1 | 1 5 3 7 |
| | Nov. | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | | 0 | 19 23 3 | |
| | DEC. | 1 2 30 | , 0 22 10 | | DEC. | 4 17 5 | 6 4 14 4 |
| 504. B. | JAN. | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | | 1 | JAN. FEB. | . 3 6 40 . 1 19 24 | 4 1 13 42 |
| 27 1 20 | FEB. | . 4 4 14 . 5 16 58 | . I | 11 26 18 47 | MAR. | . 31 20 5 | |
| | APRIL | | | II . | APRIL | 30 9 3 | |
| | MAY | | | 11 | MAY | 1100 00 0 | · · · · · · · · · · · · · · · · · · · |
| | June | 1 19 5 | | . 11 | June | . 28 11 | 4 28 14 |
| | July | 0 16 14 1 | | . | July Aug. | . 26 12 8 | 26 18 |
| | Aug. | . 29 21 2 | 2 29 13 14 | 11 | SEPT. | 04 14 | 6 25* 6 4 0 24 18 3 |
| | SEPT. | . 28 10 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 11 | 001. | 8 8 9 | 22 8 1 |
| | Nov. | | 1 | . 11 | Nov. | . 23 2 | 1 |
| | DEC. | 00 0 1 | 1 | 7 | DEC. | . 22 15 2 | 28 22 16 8 |

| , | 1 | | | | | | |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|----------------------------------|----------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl | True New Moon. |
| B.C. | | | | | | | |
| 500. | | d. h. m. | d. h. m. | B.C. | | d. h. m | d. h. m. |
| March. | JAN | 21 4 13 | 21 3 6 | 497. | JAN | 18 19 28 | 19 8 33 |
| d. h. m. | FEB | 19 16 57 | 19 13 23 | A.G. | FEB. | 17 8 7 | 17 21 11 |
| 27 0 35 | MAR | 21 5 41 | 20 23 56 | March. $d. h. m.$ | 0 | 6 3 2 29 | |
| | APRIL | 19 18 25 | 19 11 24 | 26 18 2 | MAR. | 17 20 51 | |
| | 0 | f 4 12 47 | 4 22 36 | | APRIL | 16 9 35 | 16 15 4 |
| | MAY . | 119 7 9 | 19 0 17 | | MAY . | 15 22 19 | 15 21 55 |
| | JUNE . | 17 19 58 | 17 14 43 | | JUNE. | 14 11 3 | 14 4 43 |
| | JULY. | 17 8 37 | 17 6 24 | | JULY . | 13 23 47 | 13 12 40 |
| ** | Aug | 15 21 21 | 15 22 36 | | Aug | (12 12 31 | 11 22 46 |
| | SEPT | 14 10 5 | 14 14 34 | | 0 | 27 6 53 | 27 12 18 |
| | Oct | (13 22 49 | 14 5 41 | | SEPT | 11 1 15 | 10 11 46 |
| • | 0 | 28 17 11 | 28 5 14 | | Ост. | 10 13 59 | 10 3 50 |
| | Nov | 12 11 33 | 12 19 34 | | Nov. | 9 2 48 | 8 22 21 |
| | DEC | 12 0 17 | 12 8 2 | 1 | DEC. | 8 15 27 | 8 17 57 |
| | | | | | | | 0 1. 0. |
| 499. | JAN | 10 13 1 | 10 19 6 | 496. | JAN | 7 4 11 | 7 12 56 |
| C. | FEB. | 9 1 45 | 9 4 55 | F. | FEB | 5 16 55 | 6 5 46 |
| 27 6 24 | MAR | 10 14 29 | 10 13 50 | | 0 | 20 11 17 | 20 6 16 |
| | APRIL | 9 8 13 | 8 22 28 | 26 23 51 | MAR. | 7 5 39 | 7 19 38 |
| , | MAY . | 8 15 57 | 8 7 43 | ' | APRIL | 5 18 28 | 6 6 29 |
| ; | JUNE . | 7 4 41 | 6 18 31 | | MAY . | 5 7 7 | 5 14 54 |
| | July . | 6 17 25 | 6 7 31 | | JUNE . | 3 19 51 | 3 21 56 |
| | Avg | 5 6 9 | 4 22 47 | • | JULY. | 3 8 35 | 3 4 42 |
| | SEPT | 3 18 53 | 3 15 51 | | | (1 21 19 | 1 12 14 |
| • | Ост | 3 7 37 | 3 9 41 | | Aug. O | 16 15 41 | 16 19 19 |
| | Nov | 1 20 21 | 2 3 9 | : | | (31 10 3 | 30 21 33 |
| | | (195 | 1 19 11 | 1 | SEPT | 29 22 47 | 29 9 25 |
| | DEC | 30 21 49 | 31 9 9 | | Ост | 29 11 31 | 29 0 8 |
| | | | - | | Nov | 28 0 15 | 27 17 27 |
| 498. | JAN. | 29 10 34 | 29 20 50 | | DEC | 27 12 59 | 27 12 19 |
| В. | FEB. | 27 23 18 | 28 6 27 | 40- | _ | | |
| | 0 | (14 17 40 | 14 20 35 | 495. E. | JAN | 26 1 44 | 26 7 18 |
| 27 12 13 | MAR. | 29 12 2 | 29 14 33 | | FEB | 24 14 28 | 25 0 51 |
| | APRIL | 28 0 46 | 27 21 56 | 27 5 40 | MAR. | 26 3 12 | 26 15 54 |
| | MAY. | 27 13 30 | 27 5 36 | | APRIL | 24 15 56 | 25 4 4 |
| . | JUNE . | 26 2 14 | 25 14 39 | | MAY . | 24 4 40 | 24 13 43 |
| | JULY. | 25 14 58 | 25 2 3 | | June . | 22 17 24 | 22 21 42 |
| | Aug. | 24 3 42 | 23 16 19 | | JULY. | 22 6 8 | 22 5 6 |
| •. | 0 | 7 22 4 | 7 22 39 | | Aug | 20 18 52 | 20 12 57 |
| | SEPT. | 22 16 26 | 22 9 17 | | SEPT | 19 7 36 | 18 22 8 |
| | Ocr. | 22 5 10 | 22 4 2 | | Ост | 18 20 20 | 18 9 12 |
| | Nov. | 20 17 54 | 20 23 7 | 1 | Nov. | 17 9 4 | 16 22 30 |
| | DEC. | 20 6 38 | 20 17 1 | | DEC | ∫16 21 48 | 16 13 58 |
| | | | 1. 1 | | 0 | (31 16 11 | |
| | I | | | | | | |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 491. | | d. h. m. | d. h. m. |
| 494. | 0 | ſ | 1 1 58 | G | JAN | 12 1 42 | 12 2 17 |
| D. | JAN | 15 10 33 | 15 7 4 | March. $d.$ $h.$ $m.$ | FEB | 10 14 26 | 10 12 24 |
| March. d . h . m . | FEB | 13 23 17 | 14 0 52 | 27 4 55 | MAR | 12 3 10 | 11 22 28 |
| 27 11 28 | MAR | 15 12 1 | 15 18 12 | | APRIL | (10 15 54 | 10 9 7 |
| | APRIL | 14 0 45 | 14 10 2 | | 0 | 25 10 16 | 25 21 47 |
| | MAY . | 13 13 29 | 13 23 41 | | MAY . | 10 4 38 | 9 21 1 |
| | JUNE . | ſ12 2 13 | 12 11 6 | | June . | 8 17 22 | 8 10 35 |
| | 0 | 26 20 35 | 26 8 54 | | JULY. | 8 6 6 | 8 1 43 |
| | JULY. | 11 14 57 | 11 20 45 | | Aug | 6 18 50 | 6 17 55 |
| | Aug | 10 3 41 | 10 5 32 | | SEPT. | 5 7 34 | 5 10 21 |
| | SEPT | 8 16 25 | 8 14 20 | | Oct. | f 4 20 18 | 5 2 15 |
| | Ocr | 8 5 9 | 7 23 54 | | 0 | 19 14 40 | 19 2 25 |
| | Nov. | 6 17 53 | 6 10 38 | | Nov. | 3 9 2 | 3 17 2 |
| | DEC. | (6 6 37 | 5 22 40 | , | DEC | 2 21 46 | 3 6 22 |
| | 0 | 21 0 59 | 21 12 22 | | | (1 10 31 | 1 18 9 |
| | | 1.22 | | 490. | JAN | 30 23 15 | 31 4 26 |
| 493. | JAN | 4 19 21 | 4 12 7 | F. | | (50 25 15 | 51 4 20 |
| C.B. | FEB | 3 8 5 | 3 2 50 | | FEB | C 7 71 50 | 1 13 32 |
| 26 17 17 | MAR | 3 20 49 | 3 18 32 | 27 10 44 | MAR. | 1 11 59 | 30 21 59 |
| | APRIL | 2 9 33 | 2 10 41 | | 1 | (31 0 48 | 15 6 24 |
| | MAY . | 1 22 17 | 2 2 33 | | 0 | 14 19 5 | 29 6 37 |
| | MAI. | 31 11 1 | 31 17 24 | | APRIL | 29 13 27 | 28 16 22 |
| | 0 | ∫15 5 23 | 14 20 48 | | MAY . | 29 2 11 | 27 4 8 |
| | JUNE . | 29 28 45 | 30 6 46 | | JUNE . | 27 14 55 | 26 18 17 |
| | JULY . | 29 12 29 | 29 18 50 | | JULY . | 27 3 39 | 25 10 42 |
| | Aug | 28 1 13 | 28 5 29 | | Aug | 25 16 23 24 5 7 | 24 4 29 |
| | SEPT | 26 13 57 | 26 15 51 | | SEPT | | 8 15 36 |
| | Ocr | 26 2 41 | 26 2 16 | | 0 | 8 23 29 | 23 22 32 |
| | Nov | 24 15 25 | 24 13 0 | | Oct | (23 17 51 | 22 15 35 |
| | 0 | 9 9 47 | 9 15 26 | | Nov. | 22 6 35 | 22 6 44 |
| | DEC | 124 4 9 | 24 0 9 | | DEC | 21 19 19 | |
| 492. | JAN. | 22 16 54 | 22 11 46 | 489. | JAN | 20 8 4 | 20 19 32 |
| A. | FEB. | 21 5 38 | 20 23 59 | E.D. | FEB | 18 20 48 | 19 6 Q |
| . 26 23 6 | MAR. | 22 18 22 | 22 13 8 | 26 16 33 | MAR | 19 9 32 | 19 14 37 |
| , 40 25 0 | APRIL | 21 7 6 | 21 3 19 | | 0 | 3 3 54 | 3 8 17 |
| | MAY . | 20 19 50 | 20 18 23 | | APRIL | 17 22 16 | 17 22 5 |
| | | (4 14 12 | 1 | | MAY . | 17.11 0. | 17 5 20 |
| | JUNE . | 19 8 34 | | | JUNE . | 15 23 44 | 15 13 29 |
| | | 18 21 18 | 19 0 53 | | JULY. | 15 12 28 | 14 23 35 |
| | JULY . | 17 10 2 | 17 15 13 | | Aug | 14. 1 1 2 | 13 12 27 |
| | AUG. | | 16 4 32 | | SEPT | ∫12 13 56 | 12 4 14 |
| | SEPT. | | 15 16 58 | | 0 | 27. 8 18 | 27 7 41 |
| | Oct | 15 11 30 | 15 16 56 | | Oct | 12 2 40 | 11 22 22 |
| | Nov. | 14 0 14 | 13 15 45 | | Nov | 10 15 24 | 10 17 38 |
| | DEC | 13 12 58 | 19 19 49 | | DEC | 10 4 8 | 10 12 23 |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|--|--|--|---|--|----------------------------------|---|---|
| B.C. 488. c. March. d. h. m. 26 22 21 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 8 16 52 7 5 36 8 18 20 7 7 4 6 19 48 5 8 32 4 21 16 3 10 0 1 22 44 (1 11 28 | d. h. m. 9 5 13 7 19 16 9 6 24 7 15 7 6 22 17 5 4 56 4 12 12 2 21 9 { 1 8 42 30 23 21 | B.C. 485. G.F. March. d. h. m. 26 15 48 | JAN O FEB MAR APRIL MAY . JUNE . | d. h. m. 6 8 2 21 2 24 4 20 46 5 9 30 3 22 14 3 10 58 1 23 42 1 12 26 16 6 48 31 1 10 | d. h. m. 6 2 28 21 11 53 4 19 42 5 13 11 4 5 45 3 20 31 2 9 4 1 19 41 15 18 28 31 5 0 |
| 487. | Nov DEC | \begin{array}{c c c c c c c c c c c c c c c c c c c | 30 16 49 29 12 6 29 7 34 28 1 35 | | Aug Sept Oct Nov Dec | 29 13 54 28 2 38 27 15 22 26 4 6 25 16 50 | 29 18 56 27 28 15 27 9 29 25 20 58 25 9 31 |
| 27 4 10 | FEB MAR APRIL MAY . JUNE . | $ \begin{bmatrix} 11 & 8 & 47 \\ 26 & 8 & 9 \\ 27 & 15 & 58 \\ 26 & 4 & 37 \\ 25 & 17 & 21 \\ 24 & 6 & 5 \end{bmatrix} $ | 11 4 45 26 16 55 28 5 9 26 14 39 25 22 14 24 5 2 | 484. E. 26 21 37 | JAN FEB MAR APRIL MAY . JUNE . | 24 5 35 22 18 19 24 7 3 22 19 47 22 8 31 20 21 15 | 28 28 28 22 14 20 24 6 4 22 22 0 22 18 24 21 8 89 |
| The state of the s | AUG SEPT OCT Nov DEC | 23 18 49 { 7 13 11 {22 7 83 20 20 17 20 9 1 18 21 45 18 10 29 | 23 12 9 7 15 10 21 20 35 20 7 13 19 20 34 18 12 38 18 6 46 | | JULY . AUG SEPT OCT Nov O | 20 9 59 18 22 48 17 11 27 17 0 11 {15 12 55 80 7 17 15 1 89 | 20 16 28 19 4 1 17 14 50 17 1 28 15 12 4 80 9 47 14 22 59 |
| 486. A. 27 9 59 | JAN O FEB MAR APRIL MAY . JUNE . | \$\begin{cases} 16 23 14 \\ 31 17 36 \\ 15 11 58 \\ 17 0 42 \\ 15 13 26 \\ 15 2 10 \\ 13 14 54 \end{cases}\$ | 17 1 45 81 20 0 15 20 1 17 12 19 16 1 53 15 12 44 13 21 30 | 483. D. 27 8 26 | Jan Feb Mar April May . O June . | 18 14 24 12 8 8 18 15 52 12 4 86 {11 17 20 26 11 42 10 6 4 | 18 10 12 11 21 49 18 10 10 11 28 84 11 14 8 26 18 28 10 5 18 |
| | JULY . O AUG SEPT OCT Nov DEC | 13 3 38 27 22 0 11 16 22 10 5 6 9 17 50 8 6 34 7 19 18 | 13 5 12 27 15 32 11 12 53 9 21 28 9 7 41 7 19 53 7 10 18 | | JULY . AUG SEPT OCT Nov O DEC | $\begin{array}{c} 9 \ 18 \ 48 \\ 8 \ 7 \ 82 \\ 6 \ 20 \ 16 \\ 6 \ 9 \ 0 \\ 4 \ 21 \ 44 \\ 19 \ 16 \ 6 \\ 4 \ 10 \ 28 \end{array}$ | 9 20 44 8 11 44 7 1 51 6 15 1 5 8 17 19 9 7 4 14 46 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|---|---|---|---|---|---|---|---|
| B.C. 482. c. March. d. h. m. 27 9 14 | JAN FEB MAR APRIL MAY O JUNE . JULY . AUG SEPT OCT | d. h. m. 2 28 12 1 11 56 8 0 40 1 18 24 1 2 8 15 20 80 80 14 52 29 8 86 28 16 20 27 5 4 25 17 48 25 6 82 (9 0 54 28 19 16 | d. h. m. 8 1 81 1 11 88 2 21 25 { 1 7 25 80 18 28 16 5 52 80 6 55 28 21 15 28 18 6 27 5 44 25 22 17 25 18 57 8 18 40 24 4 14 | B.C. 479. F. March. d. h. m. 27 2 41 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | d. h. m. 29 8 6 27 15 50 (14 10 12 29 4 84 27 17 18 27 6 2 25 18 46 25 7 80 23 20 14 { 7 14 86 22 8 58 21 21 42 20 10 26 19 28 10 | d. h. m. 29 16 40 28 5 9 14 5 27 29 14 53 27 22 86 27 5 20 25 12 9 24 20 11 28 6 25 7 20 9 21 19 84 21 11 46 20 6 20 20 1 52 |
| 481. B.A. 26 15 8 | DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 28 8 0 21 20 45 20 9 29 20 22 18 19 10 57 18 28 41 17 12 25 17 1 9 15 18 58 14 2 87 18 15 21 12 4 5 11 16 49 | 28 16 50 22 8 47 20 18 16 20 21 44 19 5 56 18 14 51 17 1 24 16 14 20 15 5 45 18 28 9 18 17 28 12 11 22 12 8 40 | 478. E. 27 8 30 | JAN FEB OMAR APRIL MAY . JUNE . JULY . AUG OSEPT OCT Nov | 18 11 55 17 0 39 8 19 1 18 18 28 17 2 7 16 14 51 15 3 85 14 16 19 {18 5 8 27 28 25 11 17 47 11 6 81 9 19 15 | 18 20 45 17 18 27 8 14 11 19 8 9 17 18 58 16 22 18 15 5 24 14 12 19 12 20 6 28 2 36 11 5 40 10 17 41 9 8 26 |
| 480. c. 26 20 52 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV | 10 5 84 8 18 18 10 7 2 25 1 24 8 19 46 8 8 80 6 21 14 6 9 58 4 22 42 8 11 26 18 5 48 8 0 10 1 12 54 1 1 88 80 14 22 | 10 17 41 9 5 18 10 14 82 25 8 29 8 22 17 8 5 28 6 12 58 5 21 50 4 9 17 2 28 41 18 6 59 2 16 54 1 11 54 1 7 12 81 1 11 | 477: D.C. 26 14 19 | DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 29 15 19 29 4 8 27 16 47 | 80 21 6 29 6 84 28 17 49 27 7 4 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl. | True New Moon, (O Full Ec) |
|----------------------------|--------|------------------------------|------------------------------------|----------------------------|--------|---|----------------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 473. | | d. h. m. | d. h. m |
| 476. | 0 | 10.23 54 | 11 10 36 | March. | JAN | 28 9 26 | 28 10 58 |
| B. March. | JAN. | 25 18 16 | 25 14 51 | d. h. m. | FEB | 21 22 10 | 21 20 88 |
| d. h. m. | FEB | 24 7 0 | 24 8 8 | 26 13 34 | MAR | 22 10 54 | 22 6 11 |
| 26 20 7 | MAR | 25 19 44 | 26 1 5 | | APRIL | 20 28 88 | 20 16 19 |
| | APRIL | 24 8 28 | 24 16 45 | | MAY. | 20 12 22 | 20 8 49 |
| | MAY . | 23 21 12 | 24 6 27 | | JUNE . | 19 1 6 | 18 17 11 |
| | JUNE . | 22 9 56 | 22 18 7 | | JULY . | 18 18 50 | 18 8 22 |
| | 0 | (7 4 18 | 6 15 55 | | Aug. | 17 2 84 | 17 0 58 |
| • | JULY . | 21 22 40 | 22 4 11 | | SEPT. | 15 15 18 | 15 17 50 |
| | Aug | 20 11 24 | 20 13 26 | | Oct. | (15 4 2 | 15 10 19 |
| | SEPT. | 19 0 8 | 18 22 43 | | 0 | 29 22 24 | 29 10 56 |
| | Ост. | 18 12 52 | 18 8 36 | | | 1 | |
| | Nov. | 17 1 36 | | | Nov. | 18 16 46 | 14 1 88 |
| | | | 16 19 29 | | DEC | 18 5 80 | 18 15 8 |
| | DEC | (16 14 20 | 16 7 25 | 472. | JAN | 11 18 15 | 12 2 58 |
| | 0 | (31 8 42 | 31 20 41 | D. | FEB | 10 6 59 | 10 12 54 |
| 475. | JAN | 15 8 5 | 14 20 28 | 26 19 28 | MAR. | 11 19 48 | 11 21 86 |
| A. | FEB | 13 15 49 | 13 10 37 | 20 10 20 | APRIL | (10 8 27 | 10 5 87 |
| 27 1 56 | MAR. | 15 4 33 | 15 1 42 | | | 13 | |
| | APRIL | 18 17 17 | 18 17 24 | | O M | | 25 18 17 |
| | MAY . | 18 6 1 | | | MAY. | 9 21 11 | 9 18 52 |
| | JUNE . | | | | June. | 8 9 55 | 7 28 22 |
| | O O | 11 18 45 26 13 7 | 11 23 59 | | JULY. | 7 22 89 | 7 11 0 |
| | JULY. | 1, | 26 4 10 | | Aug | 6 11 28 | 6 1 18 |
| | 1 | 11 7 29 | 11 13 41 | | SEPT | 507 | 4 17 58 |
| | Aug | 9 20 13 | 10 2 6 | | Oct | § 4 12 51 | 4 12 7 |
| | SEPT | 8 8 57 | 8 13 31 | | 0 | 119 7 18 | 19 0 18 |
| | Oct | 7 21 41 | 8 0 24 | | Nov | 8 1 85 | 8 6 84 |
| | Nov | 6 10 25 | 6 11 9 | | DEC | 2 14 19 | 2 28 56 |
| | DEC | ∫ 5 23 9 | 5 21 59 | | | (1 0 0 | |
| | 0 | 20 17 31 | 20 23 27 | 471. | JAN | 1 8 8 | 1 15 18 |
| 474. | JAN | 4 11 53 | 4 8 56 | C. | 770 | 80 15 47 | 81 8 55 |
| G. | FEB. | 3 0 37 | 2 20 4 | | FEB | • | *** |
| 27 7 45 | MAR. | 4 13 21 | | 27 1 12 | MAR. | $\int 1 481$ | 1 14 9 |
| | APRIL | | | | | (80 17 15 | 80 22 26 |
| | MAY. | | 2 20 16 | | 0 | ∫14 11 87 | 14 14 58 |
| | mrýi. | 2 14 49 | 2 9 59 | | APRIL | 129 5 59 | 29 5 86 |
| | June O | 1 3 33 | 1 0 49 | | MAY . | 28 18 48 | 28 12 41 |
| | OUNEO | 15 21 55 | 15 20 53 | , | JUNE . | 27 7 27 | 26 20 48 |
| 0 | т | 30 16 17 | 30 16 18 | | JULY. | 26 20 11 | 26 6 50 |
| | JULY, | 305 1 | 30 7 46 | | Avg | 25 8 55 | 24 19 47 |
| | Aug | 28 17 45 | 28 22 38 | - | SEPT. | 28 21 89 | 28 11 46 |
| | SEPT | 27 6 29 | 27 12 36 | | 0 | 8 16 1 | 8 16 16 |
| , | Oct | 26 19 13 | 27 1 33 | ' | Oct. | 28 10 28 | 28 6 8 |
| | Nov | 25 7 57 | 25 13 33 | , | Nov. | 21 28 7 | |
| | DEC | 24 20 41 | 25 0 40 | | DEC. | | |
| · | | | | | AU | 21 11 51 | 21 20 28 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mesn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|--|--|--|--|
| B.C. 470. B. March. d. h. m. 27 7 0 | JAN Feb Mar | d. h. m. 20 0 36 18 13 20 20 2 4 | d. h. m. 20 13 19 19 8 15 20 14 11 | B.C. 467. E. March. d. h. m. | JAN O FEB | d. h. m. {16 15 46 31 10 8 15 4 30 | d. h. m. 16 10 24 31 20 23 15 3 12 |
| | APRIL MAY. JUNE. JULY. AUG. | 18 14 48 18 8 32 16 16 16 16 5 0 14 17 44 | 18 22 48 18 5 46 16 12 24 15 19 48 14 4 49 | 27 0 26 | MAR APRIL MAY . JUNE . JULY . | 16 17 14 15 5 58 14 18 42 13 7 26 \$\int 12 20 10 | 16 20 13 15 12 29 15 3 12 13 15 58 13 2 56 |
| | SEPT OCT NOV DEC | 13 6 28 12 19 12 11 7 56 10 20 40 | 12 16 82 12 7 18 11 0 50 10 20 4 | | Aug Sept Oct Nov Dec | 11 8 54 9 21 38 9 10 22 7 23 6 7 11 50 | 27 1 34 11 12 44 9 22 9 9 7 58 7 18 22 7 5 45 |
| 469. A.G. | JAN FEB | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 9 15 23 8 9 15 22 12 54 | 466. | Jan | 6 0 35 | 5 18 6 |
| 26 12 48 | MAR APRIL MAY. JUNE. JULY. AUG O SEPT OCT NOV DEC | 8 10 58 6 28 87 6 12 21 5 1 5 4 18 49 8 2 88 17 20 55 1 15 17 { 1 4 1 80 16 45 29 5 29 28 18 18 | 9 0 26 7 12 33 6 22 0 5 5 88 4 12 35 2 19 57 17 22 18 { 1 4 83 80 15 80 30 4 55 28 20 53 28 14 45 | p. 27 6 15 | FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV . | 4 18 19 6 2 3 4 14 47 4 8 81 2 16 15 { 2 4 59 81 17 48 30 6 27 28 19 11 28 7 55 26 20 89 {11 15 1 26 9 28 | 4 7 25 5 21 45 4 12 56 4 4 32 2 19 52 2 10 22 81 28 40 30 11 49 28 23 11 28 10 11 26 21 8 11 17 46 26 7 58 |
| 468. F. 26 18 87 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | 27 6 57 (11 1 19 (25 19 41 27 8 25 25 21 9 25 9 58 23 22 87 23 11 21 (7 5 48 (22 0 5 20 12 49 20 1 33 18 14 17 18 3 1 | 27 9 21 11 4 26 26 8 18 27 19 28 26 8 58 25 19 49 24 4 49 23 12 50 6 22 28 21 20 54 20 5 50 19 16 17 18 4 32 17 18 39 | 465. c.b. 26 12 4 | JAN FEB MAR APRIL O JUNE . JULY . AUG SEPT OCT NOV O DEC | 24 22 7 28 10 51 28 28 85 22 12 19 22 1 8 5 19 25 20 18 47 20 2 81 18 15 15 17 8 59 16 16 48 {15 5 27 29 28 49 14 18 11 | 24 18 44 28 5 48 28 17 88 22 6 24 21 20 88 5 21 18 20 11 44 20 8 26 18 18 56 17 9 40 16 28 24 15 12 8 29 17 18 14 28 41 |

| | | | | 1 | 1 | 1 | 1 |
|--------------------|---|------------------------|------------------------|--------------------|--------|---------------|------------------------|
| Mean | 35 | Mean New | True New | Mean | 3543 | Menn New | True New |
| Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. (O Full Ecl.) | Vernul Equinox. | Month. | (O Full Ecl.) | Moon. |
| | | | | | | | - controversement some |
| B.C. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| 464. | - | | | 461. E.D. | ~ | | |
| March. | JAN | 13 6 56 | 13 10 18 | March. | JAN | 10 22 5 | 11 9 14 |
| d. h. m. | FEB | 11 19 40 | 11 20 3 | d. h. m. | FEB | 9 10 50 | 10 0 38 |
| 26 17 53 | MAR. | 13 8 24 | 13 5 20 | 26 11 19 | MAR | (9 23 31 | 10 12 57 |
| | APRIL | 11 21 8 | 11 14 50 | | 0 | 121 17 56 | 24 12 41 |
| | MAY. | $\{11 \ 9 \ 52\}$ | 11 1 20 | | APRIL | 8 12 18 | 8 22 80 |
| | 0 | 126 4 14 | 26 13 6 | | MAY. | 8 1 2 | 8 6 6 |
| | June. | 9 22 36 | 9 13 36 | | June . | 6 13 46 | 6 12 47 |
| | JULY. | 9 11 20 | 9 3 53 | | July. | 6 2 80 | 5 19 41 |
| | Aug | 8 0 4 | 7 19 57 | | Aug | 4 15 14 | 4 8 50 |
| | SEPT | 6 12 48 | 6 13 2 | | SEPT | J 8 8 58 | 2 14 15 |
| | Ост | 6 1 32 | 6 6 7 | | 0 | 117 22 20 | 18 4 8 |
| | Nov | f 4 14 16 | 4 22 19 | | Oct | 2 16 42 | 12 8 88 |
| | 0 | 19 8 38 | 18 22 12 | | 27 | f 1 5 26 | f 81 10 49 |
| | DEC | 4 3 0 | 4 12 54 | | Nov | 180 18 10 | 80 14 20 |
| | | | | | DEC | 80 6 54 | 80 9 45 |
| 463. | - · | | | | | | |
| | JAN | 2 15 44 | 3 1 34 | 400 | т | 00 10 00 | 00 4 07 |
| G. | FEB | 1 4 28 | 1 12 21 | 460. c. | JAN | 28 19 88 | 20 4 27 |
| 26 23 41 | MAR | 2 17 12 | 2 21 27 | | FEB | 27 8 22 | 27 20 57 |
| | APRIL | ∫ 1 5 56 | 1 5 30 | 00 45 0 | | [14 2 44] | 18 21 57 |
| | 111111111111111111111111111111111111111 | \\30 18 40 | 30 13 21 | 26 17 Ş | MAR. | 128 21 6 | 20 10 82 |
| | MAY . | 30 7 24 | 29 21 57 | | APRIL | 27 9 50 | 27 21 11 |
| | JUNE . | 28 20 8 | 28 8 21 | | Mar. | 26 22 84 | 27 5 87 |
| | JULY. | 28 8 52 | 27 21 16 | | JUNE. | 25 11 18 | 25 12 52 |
| | Aug | 26 21 36 | 26 12 53 | | Juny. | 25 0 2 | 21 20 0 |
| | SEPT | 25 10 20 | 25 6 36 | | Aug | 23 12 46 | 28 4 4 |
| | Oct | 24 23 4 | 25 1 18 | | 0 | [778 | 7 10 1 |
| | Nov | 23 11 48 | 23 19 33 | | Sept | 122 1 80 | 21 18 54 |
| | DEC | 23 0 32 | 23 12 4 | | Ост | 21 14 14 | 21 2 5 |
| | | | | | Nov | 20 2 58 | 19 16 47 |
| 455 | - | | | | DEC | 19 15 42 | 19 9 42 |
| 462. | JAN | 21 13 17 | 22 2 5 | | | | |
| | FEB | 20 2 1 | 20 13 24 | 459. | JAN | 18 4 27 | 18 8 55 |
| 27 5 30 | MAR | 21 14 45 | 21 22 27 | в. | FEB. | 16 17 11 | 16 22 11 |
| | APRIL | 20 3 29 | 20 5 55 | 26 22 57 | Mar. | 18 5 55 | 18 15 10 |
| | MAY. | 19 16 13 | 19 12 48 | 01 | APRIL | 16 18 89 | 17 5 56 |
| 1 | JUNE. | 18 4 57 | 17 20 10 | | MAY . | 16 7 28 | 16 18 8 |
| | JULY. | 17 17 41 | 17 5 8 | | JUNE . | 14 20 7 | 15 4 6 |
| | Aug | 16 6 25 | 15 16 38 | | JULY . | 14 8 51 | |
| | SEPT | ∫14 19 9 | 14 7 13 | | Aug. | | |
| | 0 | 129 13 31 | 29 15 24 | | SEPT. | 1 | 12 20 45 |
| | Ост | 14 7 53 | 14 0 36 | | | 11 10 19 | 11 5 28 |
| | Nov | 12 20 37 | 12 19 48 | | Our | 10 28 8 | 10 15 10 |
| | DEC | 12 9 21 | 12 15 14 | | Nov. | 9 11 47 | 9 2 84 |
| | | | 1 | | DEC | 9 0 81 | 8 15 41 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|----------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 455. | | d. h. m. | d. h. m. |
| 458. | JAN | 7 13 16 | 7 6 28 | D. | JAN | 4 4 26 | 4 9 33 |
| . A. | 0 | 22 7 33 | 22 19 8 | March. | FEB | 2 17 10 | 2 19 31 |
| March. $d. h. m.$ | FEB | 6 2 0 | 5 22 33 | d. h. m. 26 22 12 | MAR | 4 5 54 | 4 4 45 |
| 27 4 46 | MAR | 7 14 44 | 7 15 19 | | APRIL | 2 18 38 | 2 13 47 |
| | APRIL | 6 3 28 | 6 7 52 | | | (2 7 22 | 1 23 28 |
| | MAY. | 5 16 12 | 5 23 22 | | MAY . | 31 20 6 | 31 10 37 |
| | JUNE . | 4 4 56 | 4 13 11 | | JUNE . | 30 8 50 | 29 23 50 |
| | JULY. | (3 17 40 | 4 1 10 | | JULY . | 29 21 34 | 29 15 8 |
| | 0 | 18 12 2 | 17 23 5 | | Aug. | 28 10 18 | 28 7 59 |
| | | (2 6 24 | 2 11 43 | | SEPT. | 26 23 2 | 27 1 27 |
| | Aug | 31 19 8 | 31 21 29 | | Oct | 26 11 46 | 26 18 28 |
| | SEPT | 30 7 52 | 30 7 13 | | 0 | (10 6 8 | 9 19 33 |
| | Oct. | 29 20 36 | 29 17 28 | } | Nov. | 25 0 30 | 25 10 6 |
| | Nov. | 28 9 20 | 28 4 24 | | DEC | 24 13 14 | 24 23 50 |
| | DEC | 27 22 4 | 27 16 9 | | | | |
| | | | | 454. | JAN | 23 1 58 | 23 11 27 |
| | _ 0 | 11 16 26 | 12 4 55 | c. | FEB | 21 14 42 | 21 21 12 |
| 457. | JAN | 26 10 48 | 26 4 44 | 27 4 1 | MAR | 23 3 26 | 23 5 31 |
| G.F. | FEB | 24 23 32 | 24 18 16 | | APRIL | 21 16 10 | 21 13 10 |
| 26 10 34 | MAR | 25 12 16 | 25 8 45 | | 0 | 6 10 32 | 6 20 1 |
| | APRIL | 24 1 0 | 24 0 0 | | MAY . | 21 4 54 | 20 21 6 |
| | MAY . | 23 13 44 | 23 15 28 | | JUNE . | 19 17 38 | 19 6 24 |
| | JUNE. | 22 2 28 | 22 6 33 | | JULY . | 19 6 22 | 18 17 59 |
| | 0 | 6 20 50 | 6 11 36 | | A.ug | 17 19 6 | 17 8 20 |
| | JULY. | 21 15 12 | 21 20 39 | | SEPT | 16 7 50 | 16 1 15 |
| | Aug | 20 3 56 | 20 9 39 | | Oct | ∫15 20 34 | 15 19 48 |
| | SEPT | 18 16 40 | 18 21 39 | | 0 | (30 14 56 | 30 9 5 |
| | Oct | 18 5 24 | 18 9 1 | | Nov | 14 9 18 | 14 14 37 |
| | Nov | 16 18 8 | 16 20 6 | | DEC | 13 22 2 | 14 8 14 |
| | DEC | 16 6 52 | 16 6 56 | 453. | JAN | 12 10 47 | 12 23 36 |
| | 0 | 81 1 14 | 31 7 21 | B.A. | FEB | 10 23 31 | 11 12 10 |
| 456. | JAN | 14 19 37 | 14 17 39 | 26 9 50 | MAR | 11 12 15 | 11 22 10 |
| 16. | FEB | 13 8 21 | 13 4 18 | | APRIL | (10 0 59 | 10 6 10 |
| 26 16 23 | MAR. | 14 21 5 | 14 15 22 | | 0 | 124 19 21 | 24 21 32 |
| | APRIL | 13 9 49 | 13 3 21 | | MAY . | 9 13 43 | 9 13 7 |
| | MAY . | 12 22 33 | 12 16 38 | | JUNE . | 8 2 27 | 7 20 3 |
| | JUNE . | (11 11 17 | 11 7 17 | | JULY . | 7 15 11 | 7 4 4 |
| | 0 | 26 5 39 | 26 4 24 | | Aug | 6 3 55 | 5 14 14 |
| | JULY. | 11 0 1 | 10 22 52 | | SEPT | 4 16 39 | 4 3 19 |
| | Aug. | 9 12 45 | 9 14 45 | | Oct | ∫ 4 5 28 | 3 19 28 |
| | SEPT. | 8 1 29 | 8 6 12 | | 0 | 18 23 45 | 19 0 59 |
| | Oct. | 7 14 13 | 7 20 46 | | Nov | 2 18 7 | 2 14 1 |
| | Nov. | 6 2 57 | 6 10 12 | | 7 | § 2 6 51 | 2 9 35 |
| | DEC. | 5 15 41 | 5 22 27 | | DEC | 31 19 35 | ••• |
| | | | | | 101 | | |

| 1 | 1 | T | 1 | II | 1 | | The second secon |
|--|--------------------------|---|---|--------------------------------|-------------------------------|---|--|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Menn New Moon. (O Full Ecl. | True New Moon.)(O Full Ecl. |
| B.C. 452. G. March. d. h. m. | JAN | d. h. m. { 30 8 19 28 21 4 | d. h. m. 1 4 29 30 21 16 \[1 11 4 \\ 20 21 50 \] | B.C. 449. b.c. March. | JAN O FEB | d. h. m. 27 28 29 {11 17 51 {26 12 18 | d. h. m. 27 18 19 12 4 48 26 10 88 |
| 26 15 39 | MAR APRIL MAY. | 30 9 48 28 22 32 28 11 16 | \ \begin{aligned} \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 26 9 5 | MAR APRIL MAY. | 27 0 57 25 18 41 25 2 25 | 27 8 4 25 19 5 25 9 48 |
| | June . July . Aug | 27 ·0 0 26 12 44 25 1 28 | 26 19 53 26 3 21 24 12 38 | | June . July . O | 28 15 9 28 8 58 5 6 22 15 | 28 22 49 23 10 15 6 8 48 |
| | SEPT OCT Nov DEC | 23 14 12 23 2 56 21 15 40 21 4 24 | 28 0 82 22 15 25 21 8 55 21 4 0 | | Aug Sept Oct Nov | 21 16 87 20 5 21 19 18 5 18 6 49 | 21 20 84 20 6 80 19 16 88 18 8 18 |
| 451. F. | Jan Feb | 19 17 8 18 5 52 | 19 23 10 18 16 46 | 448. B. | DEC | 17 19 88 16 8 18 | 17 14 85 16 2 88 |
| 26 21 27 | MAR APRIL MAY . | 5 0 14 19 18 86 18 7 20 17 20 4 | 4 20 54 20 7 46 18 19 48 18 5 16 | 26 14 54 | FEB MAR APRIL MAY . | 14 21 2 16 9 46 14 22 80 | 14 15 19 16 5 2 14 19 41 |
| | June . July . Aug | 16 8 48 15 21 32 (14 10 16 | 16 18 1 15 20 11 14 8 49 | | June . July . Aug | 14 11 14 12 28 58 12 12 42 11 1 26 | 14 10 59 18 2 21 12 17 9 11 6 57 |
| | O SEPT | 29 4 38 12 23 0 12 11 44 | 29 5 24 12 12 51 11 23 54 | | SEPT Oct Nov | 9 14 10 9 2 54 7 15 88 | 9 19 42 9 7 88 7 19 1 |
| 450. | Nov Dec Jan | 11 0 28 10 13 12 9 1 57 | 10 13 23 10 5 9 8 22 41 | 447. | DRG. , | 7 4 22 21 22 44 | 7 6 2 22 1 40 |
| 27 3 16 | Feb O Mar | $ \begin{cases} 7 & 14 & 41 \\ 22 & 9 & 8 \\ 9 & 8 & 25 \end{cases} $ | 7 16 52 22 12 45 9 10 27 | A. 26 20 48 | JAN FEB. , MAR APRIL | 5 17 7 4 5 51 5 18 85 | 5 16 42 4 8 9 5 18 42 |
| • | APRIL MAY . June . | 7 16 9 7 4 53 5 17 37 | 8 2 18 7 15 48 6 2 58 | | MAY . June . | 4 7 19 8 20 8 2 8 47 17 8 9 | 4 0 51 8 18 18 2 8 4 17 4 45 |
| , | JULY . AUG O SEPT | 5 6 21 { 8 19 5 { 18 13 27 | 5 12 10 8 20 34 18 5 24 | | July . | (1 21 81 (81 10 15 29 22 59 | 1 18 16 81 10 14 80 2 14 |
| | Oct Nov | 2 7 49 { 1 20 33 31 9 17 29 22 1 | 2 5 8 1 14 22 81 1 2 29 13 16 | | Sept Oct Nov | 28 11 48 28 0 27 26 18 11 | 28 17 85 28 7 58 26 20 58 |
| | DEC | 29 10 45 | 29 3 5 | | | (11 7 88 (26 1 55 | 11 1 21 26 8 84 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|-----------------------------|-----------------------------------|----------------------------|--------|---|------------------------------|
| B.C. 446. | | d. h. m. | d. h. m. | B.C. 443. | | d. h. m. | d. h. m. |
| G. March. | JAN | 24 14 89 | 21 18 57 | C. | JAN | 21 5 49 | 21 17 10 |
| d. h. m. | FEB | 28 8 28 | 28 4 19 | March. $d. h. m.$ | FEB | 19 18 33 | 20 8 26 |
| 27 2 81 | MAR | 21 16 7 | 24 13 8 | 26 19 58 | MAR | 21 7 17 | 21 20 36 |
| | Arrib | 23 4 51 | 22 22 8 | | 0 | $\int 5 139$ | 4 19 48 |
| | MAY . | 22 17 85 | 22 8 16 | | APRIL | 19 20 1 | 20 6 1 |
| | 0 | f 6 11 57 | 6 20 18 | | MAY . | 19 8 45 | 19 13 32 |
| | June. | (21 6 19 | 20 20 19 | | June . | 17 21 29 | 17 20 14 |
| | July. | 20 19 3 | 20 10 36 | | JULY. | 17 10 13 | 17 3 15 |
| | Απο | 19 7 47 | 19 2 55 | | Aug | 15 22 57 | 15 11 37 |
| | Sept | 17 20 31 | 17 20 21 | | SEPT | <u> </u> | 13 22 15 |
| | Ocr | 17 9 15 | 17 14 2 | | 0 | 129 6 3 | 29 12 13 |
| | Nov | ∫15 21 59 | 16 6 40 | | Oct | 14 0 25 | 13 11 40 |
| | 0 | 180 16 21 | 80 6 45 | | Nov. | 12 13 9 | 12 8 57 |
| | Drc | 15 10 48 | 15 21 81 | | DEC | 12 1 53 | 11 22 22 |
| 445. | JAN | 18 23 28 | 14 10 13 | 442. | JAN | 10 14 38 | 10 17 34 |
| F.E. | FEB | 12 12 12 | 12 20 45 | В. | FEB. | 9 3 22 | 9 11 59 |
| 26 8 20 | MAR | 18 0 56 | 18 5 81 | 27 1 47 | MAR. | (10 16 6 | 11 4 17 |
| | APRIL | 11 13 40 | 11 18 18 | | 0 | 25 10 28 | 25 5 83 |
| 1 | MAY. | 11 2 24 | 10 20 43 | | APRIL | 9 4 50 | 9 17 45 |
| | 0 | 25 20 46 | 26 5 55 | | MAY. | 8 17 34 | 9 4 25 |
| 1 | JUNE . | 9 15 8 | 9 5 6 | | JUNE . | 7 6 18 | 7 12 56 |
| | July . | 9 8 52 | 8 15 24 | | July . | 6 19 2 | 6 20 22 |
| 1 | Aug. | 7 16 86 | 7 4 22 | | Aug. | 5 7 46 | 5 3 48 |
| 1 | SEPT. | 6 5 20 | 5 20 10 | | SEPT | f 3 20 30 | 3 12 13 |
| | Ocr | 5 18 4 | 5 14 12 | | 0 | 18 14 52 | 18 17 81 |
| | Nov | 4 6 48 | 4 9 14 | | Ocr. | 3 9 14 | 2 22 19 |
| | DEC | 8 19 32 | 4 8 46 | | Nov. | 1 21 58 | 1 10 36 |
| Ì | | | 2 22 24 | | Dag | $\int 1 10 42$ | 1 1 13 |
| 444. | JAN. | § 2 8 17 | 2 20 21 | | DEC. | \ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \ | 30 17 43 |
| D. | | 81 21 1 | 1 10 01 | | İ | • | |
| | FEB | | 1 10 21 | 441. | JAN. | 29 12 11 | 29 11 35 |
| 26 14 9 | MAR. | 2 9 45 | 2 21 28 | A.G. | FEB. | 1 0 | 28 5 25 |
| | | 131 22 29 | 1 6 15 | 26 7 86 | | | 28 22 6 |
| | APRIL | 80 11 18 | 180 18 80 29 20 18 | | APRIL | 27 2 28 | 27 12 47 |
| | MAY . | | 28 8 88 | | MAY | . 26 15 7 | |
| | JUNE . | 23 12 41 28 1 25 | 27 12 33 | | JUNE | . 25 3 51 | |
| | July . | 00 44 0 | 26 0 12 | | JULY | . 24 16 3 | |
| | Aug. | 27 2 70 | 1 | | A.vg. | | |
| | SEPT | 9 21 15 | 1 | | SEPT. | | |
| | OCT. | 24 15 87 | | | Oct. | , 21 6 4 | |
| | 27 | 00 4 01 | 1 | ľ | Nov. | | |
| | DEC. | 22 17 5 | | [I | DEC. | . 19 8 1 | 5 19 0 16 |
| | 100. | | | 1 | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|---------------|------------------------------------|----------------------|----------------------------|---------------|------------------------------------|----------------------|
| B.C. 440, | Jan | d. h. m. 17 20 59 | d. h. m. 17 14 87 | B.C. 437. | JAN | d. h. m. 15 12 9 | d. h. m. 15 18 16 |
| March. | 0 | 1 15 21 | 2 3 29 | March. d. h. m. | Fев | 14 0 53 | 14 3 57 |
| d. h. m. | FEB | (16 9 43 | 16 6 7 | 26 6 51 | MAR. | 14 13 37 | 14 12 43 |
| 26 13 24 | MAR., | 17 22 27 | 17 22 19 | | APRIL | 13 2 21 | 12 21 18 |
| : | APRIL MAY. | 16 11 11 15 23 55 | 16 14 31 | | May . | 12 15 5 | 12 6 31 |
| | JUNE . | 14 12 39 | 16 5 55 | | June. | 11 3 49 | 10 17 26 |
| | JULY. | (14 1 23 | 14 19 54 14 8 16 | | JULY. | 10 16 33 | 10 6 31 |
| | 0 | 28 19 45 | 23 6 20 | | Aug | 9 5 17 | 8 22 0 |
| | Aug | 12 14 7 | 12 19 19 | | SEPT | 7 18 1 | 7 15 12 |
| | SEPT. | 11 2 51 | 11 5 38 | | Oct | 7 6 45 (5 19 29 | 7 9 9 |
| | Oct. | 10 15 35 | 10 15 50 | | Nov | 20 13 51 | 6 2 39 20 4 13 |
| | Nov. | 9 4 19 | 9 2 22 | | DEC | 5 8 13 | 5 18 37 |
| | DEC. | 8 17 3 | 8 13 19 | | 220 | 0 0 15 | 0 10 01 |
| 439. | JAN | (7 5 48 | 7 0 49 | 436. | JAN | 3 20 58 | 4 8 27 |
| E. | 0 | 22 0 10 | 22 13 0 | A. | FEB | 2 9 42 | 2 19 57 |
| | FEB. | 5 18 32 | 5 12 54 | 26 12 40 | MAR | 8 22 23 | 4 5 23 |
| 26 19 13 | MAR. | 7 7 16 | 7 1 49 | | APRIL | 2 11 10 | 2 13 20 |
| | APRIL | 5 20 0 | 5 15 44 | | | 1 23 54 | 1 20 40 |
| | MAY . | 5 8 41 | 5 6 34 | | MAYO | 316 18 16 | 17 2 42 |
| | JUNE. | 3 21 28 | 3 21 56 | | - | 31 12 38 | 31 4 21 |
| | JULY . | 3 10 12 | 3 13 10 | | JUNE. | 30 1 22 | 29 13 30 |
| | 0 | 18 4 34 | 17 19 8 | | JULY . Aug | 29 14 6 | 29 1 6 |
| | Aug | § 1 22 56 | 2 3 43 | 5 | SEPT. | 28 2 50 26 15 34 | 27 15 84 26 8 44 |
| | | (31 11 40 | 31 17 18 | | Oct. | 26 4 18 | 26 8 44 26 3 36 |
| | SEPT | 30 0 24 | 30 5 54 | | 0 | (9 22 40 | 9 18 0 |
| 1 | Oct | 29 13 8 | 29 17 46 | | Nov. | 24 17 2 | 24 22 43 |
| | Nov Dec | 28 1 52 27 14 36 | 28 5 3 | | DEC | 24 5 46 | 24 16 30 |
| | DEC | | 27 15 51 | | | | |
| 438. | T | 11 8 58 | 11 15 11 | 435. | JAN | 22 18 20 | 23 7 50 |
| D. | JAN FEB | 26 3 21 | 26 2 14 | G. | FEB | 21 7 14 | 21 20 15 |
| 27 1 2 | MAR. | 24 16 5 26 4 49 | 24 12 25 | 26 18 29 | MAR | 22 19 58 | 23 6 1 |
| | APRIL | 24 17 33 | 25 22 55 24 10 21 | | APRIL | 21 8 42 | 21 13 48 |
| | MAY. | 24 6 17 | 23 23 16 | | MAY. | 6 3 4 20 21 26 | 6 4 2 |
| | JUNE. | 22 19 1 | 22 13 48 | | JUNE . | 19 10 10 | 20 20 33 19 3 25 |
| | 0 | (7 13 23 | 7 11 57 | 1.0 | JULY. | 18 22 54 | 19 3 25 18 11 29 |
| | July. | 22 7 45 | 22 5 33 | | Aug | 17 11 38 | 16 21 46 |
| | Aug | 20 20 29 | 20 21 51 | | SEPT. | 16 0 22 | 15 11 0 |
| | SEPT | 19 9 13 | 19 13 54 | | Oct | (15 13 6 | 15 3 17 |
| | Ост. | 18 21 57 | 19 5 2 | | * 0 | (30 7 28 | 30 9 46 |
| | Nov. | 17 10 41 | 17 18 54 | | Nov | 14 1 50 | 13 21 57 |
| | DEC. | 16 23 25 | 17 7 18 | | DEC | 13 14 34 | 13 17 33 |
| l | | A. | | | | | |

| Mean Vernal Equinox. | Month | Mean New Moon. | True New Moon.) Full Ecl.) | Mean Vernal Equinox. | Month | Mean New To Moon. O Full Ecl.) | rne New Moon. Full Ecl.) |
|--------------------------------------|--|---|---|---|---|--|---|
| B.C. 434. F. March. d. h. m. 27 0 17 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OC1 NOV DEC | d. h. m. 12 | d. h. m. 12 12 25 11 5 4 12 18 42 11 5 21 10 13 39 8 20 38 8 3 25 6 11 6 4 20 36 4 8 41 2 23 36 2 17 1 1 11 55 31 6 46 (1 0 8 15 4 48 30 14 58 29 2 58 28 12 30 26 20 26 26 3 54 24 11 58 | A. 26 23 33 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC JAN FEB MAR APRIL MAY . JUNE . JUNE . JUNE . JUNE . JUNE . | 8 18 29 { 7 7 18 22 1 35 8 19 57 7 8 41 6 21 25 5 10 9 4 22 53 { 8 11 37 18 5 59 2 0 21 { 1 13 5 31 1 49 29 14 33 29 3 17 27 16 2 | 7. h. m. 8 11 27 7 2 9 2 12 55 8 17 47 7 9 51 7 1 39 5 16 24 5 5 45 8 17 39 17 16 12 2 4 31 1 14 59 81 1 28 29 12 15 28 28 28 27 10 57 25 28 8 27 12 18 26 2 24 25 17 27 24 8 51 24 0 0 22 14 21 |
| 432. c. 23 11 5 | SEPT. OCT. NOV. DEC. | 22 19 28 21 8 12 20 20 56 19 9 40 17 22 24 4 16 40 19 11 8 17 23 52 17 12 36 16 1 20 15 14 4 14 2 44 12 28 21 14 12 15 33 12 4 16 | 13 6 8: 18 0 14 18 0 25 18 19 17 22 18 18 9 16 17 22 8 16 9 5 14 15 19 8 14 4 2 10 28 12 8 2 12 18 2 6 11 28 0 10 9 5 | 429. 3 429. 3 5 6 6 6 6 5 5 5 5 5 5 5 5 5 5 5 5 5 5 | SEPT. OCT. NOV. DEC. O JAN. APRIL MAY JUNE O JULY AUG. SEPT. OCT. NOV. DEC. O | 2 6 28 17 0 50 15 18 34 16 2 18 14 15 2 14 3 46 (12 16 80 27 10 52 12 5 14 10 17 58 | 0.00 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl | True New Moon. |
|----------------------------|-----------|--|------------------------------|----------------------------|--------|---|----------------|
| B.C. 428. E. | JAN | d. h. m. 5 9 39 | d. h. m. 5 17 22 | B.C. 425. | Jan | d. h. m. | |
| March. | FEB. | 3 22 23 | 4 3 31 | B.A. | | | |
| d. h. m. 26 11 10 | MAR. | 5 11 7 | 5 12 29 | March. $d. h. m.$ | FEB | 1 13 33 | 2 0 59 |
| 20 11 10 | 1 | | | 26 4 37 | MAR. | 2 2 17 | 2 16 5 |
| | APRIL | 3 23 51 | 3 20 49 | | | (31 15 1 | (147 |
| | MAY . | 3 12 35 | 3 5 25 | | 1.0 | $\begin{cases} 15 & 9 & 23 \end{cases}$ | |
| | JUNE . | 2 1 19 | 1 15 13 | | APRIL | (30 3 45 | 30 13 25 |
| | 0 | (16 19 41 | 17 3 30 | | MAY. | 29 16 29 | 29 20 57 |
| | JULY. | $\begin{cases} 1 & 14 & 3 \end{cases}$ | 1 3 6 | | JUNE . | 28 5 13 | 28 3 45 |
| | | (31 2 47 | 30 17 27 | | JULY. | 27 17 57 | 27 10 58 |
| | Aug | 29 15 31 | 29 10 1 | | Aug | 26 6 41 | 25 19 35 |
| | SEPT | 28 4 15 | 28 3 57 | | SEPT | 24 19 25 | 24 6 24 |
| | Ocr | 27 16 59 | 27 22 3 | | 0 | (9 13 47 | 9 20 26 |
| | Nov | 26 5 43 | 26 15 3 | | Ост | 24 8 9 | 28 19 56 |
| | 0 | (11 0 5 | 10 15 21 | | Nov. | 22 20 53 | 22 12 9 |
| | DEC | 25 18 27 | 26 6 6 | | DEC | 22 9 37 | 22 6 21 |
| | | | | | | 22 00. | 22 0 21 |
| 427 | JAN | 24 7 12 | 04 10 40 | 424. | JAN | 20 22 22 | 21 1 16 |
| D. | FEB. | 22 19 56 | 24 18 43 | G. | FEB | 19 11 6 | 19 19 28 |
| 26 16 59 | MAR. | 24 8 40 | 23 5 1 | 26 10 26 | MAR. | 20 23 50 | 21 11 28 |
| 20 10 39 | | | 24 13 28 | 20 10 20 | 0 | (4 18 12 | |
| | APRIL | 22 21 24 | 22 20 49 | | APRIL | 19 12 34 | 4 18 14 |
| | MAY . | 22 10 8 | 22 4 4 | | MAY. | | 20 0 51 |
| | _ 0 | 6 4 30 | 6 12 40 | | | | 19 11 88 |
| 1 | JUNE. | 20 22 52 | 20 12 17 | | June. | 17 14 2 | 17 20 16 |
| ' | JULY. | 20 11 36 | 19 22 33 | | JULY. | 17 2 46 | 17 3 58 |
| | Aug | 19 0 20 | 18 11 36 | | Aug | 15 15 80 | 15 11 46 |
| | SEPT | 17 13 4 | 17 3 36 | | SEPT | §14 4 14 | 18 20 80 |
| | Oct | 17 1 48 | 16 21 55 | | 0 | (28 22 36 | 29 1 9 |
| | Nov | 15 14 32 | 15 17 13 | | Oct., | 13 16 58 | 18 6 51 |
| | DEC | 15 3 16 | 15 11 56 | | Nov | 12 5 42 | 11 19 18 |
| | | | | | DEC | 11 18 26 | 11 9 38 |
| 426. | JAN | 13 16 0 | 14 4 36 | | _ | | |
| c. | FEB | 12 4 44 | 12 18 26 | 423. | JAN | 10 7 10 | 10 1 50 |
| 26 22 48 | MAR. | 13 17 28 | 14 5 21 | F. | FEB | 8 19 54 | 8 19 7 |
| | APRIL | 12 6 12 | 12 13 55 | 26 16 15 | Mar | 10 8 38 | 10 12 28 |
| | MAY. | 11 18 56 | 11 20 58 | | APRIL | 8 21 22 | 9 4 54 |
| | June . | 10 7 40 | | | MAY . | 8 10 6 | 8 19 81 |
| | JULY. | 9 20 24 | 10 3 38 | | June . | 6 22 50 | 7 7 59 |
| | AUG. | | 9 10 58 | | JULY . | 6 11 34 | 6 18 32 |
| | | _ | 7 20 5 | | Aug | 5 0 18 | 5 8 54 |
| | SEPT | 6 21 52 | 6 7 53 | | SEPT | 3 13 2 | 8 12 55 |
| | Ост. | 6 10 36 | 5 22 44 | | Oct | 3 1 46 | 2 22 22 |
| | O More | (21 4 58 | 21 8 39 | | Nov. | 1 14 30 | 1 8 42 |
| | Nov. | 4 23 20 | 4 16 24 | | | (1 3 14 | 30 20 11 |
| | DEC | 4 12 4 | 4 11 43 | i i | DEC | 30 15 58 | 80 8 50 |
| 1 | | | | | | (20 19 99 | 90 0 00 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Tull Ecl.) |
|---|---|--|--|--|---|--|--|
| B.C. 422. E. March. d. h. m. 26 22 8 | JAN O FEB MAR APRIL MAY . JUNE . | d. h. m. 29 4 43 §12 28 5 (27 17 27 29 6 11 27 18 55 27 7 39 25 20 28 | d. h. m. 28 22 40 13 11 44 27 13 35 29 5 15 27 21 6 27 12 27 26 2 39 | B.C. 419. A. March. d. h. m. 26 15 30 | Jan Feb Mar April May . June . July . | | d. h. m. 26 2 55 24 12 15 25 20 36 24 4 44 23 13 39 22 0 20 21 13 25 |
| | JULY . O AUG SEPT OCT Nov DEC | 25 9 7 | 25 15 27 8 18 45 24 3 4 22 18 57 22 0 31 20 11 19 19 22 14 | | Aug Sept Oct Nov O Dec | 20 18 1 19 1 45 18 14 29 17 8 18 (1 21 85 (16 15 57 | 20 5 2 18 22 35 18 16 59 17 10 53 1 12 56 17 3 5 |
| 421. p.c. | JAN O FEB | 18 13 31 { 2 7 53 {17 2 15 | 18 9 28 2 20 56 16 20 57 | 418. G. 26 21 19 | JAN FEB MAR APRIL | 15 4 41 13 17 25 15 6 9 13 18 58 | 15 16 57 14 4 16 15 13 24 18 21 2 |
| 26 3 52 | MAR APRIL MAY. JUNE. O AUG SEPT OCT NOV DEC | 17 14 59 16 8 43 15 16 27 14 5 11 (13 17 55 (28 12 17 12 6 89 10 19 23 10 8 7 8 20 51 8 9 35 | 17 9 14 15 22 37 15 13 4 14 4 22 18 19 50 28 2 46 12 10 52 11 1 8 10 14 15 9 2 31 8 14 0 | | MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC. | 18 7 87 28 1 59 11 20 21 11 9 5 9 21 49 8 10 38 7 23 17 6 12 1 21 6 23 6 0 45 | 13 4 5 28 9 1 11 11 57 10 20 48 9 8 20 7 22 58 7 16 22 6 11 28 21 2 55 6 6 46 |
| 420. B. 23 9 41 | JAN O FEB MAR APRIL MAY . | 6 22 20 21 16 42 5 11 4 6 23 48 5 12 32 5 1 16 | 7 0 42 21 22 58 5 10 48 6 20 24 5 6 20 4 17 18 8 5 54 | 417. F.E. 26 3 8 | JAN. FEB. MAR. APRIL | 2 3 42 | 1 21 19 16 10 32 |
| | JUNE . JULY . O AUG SEPT OCT NOV DEC | 29 5 40 27 18 24 | 2 20 20 17 19 34 1 12 18 81 5 2 29 21 40 29 18 21 28 3 35 | 1 | JUNE JULY AUG. SEPT. OCT. O Nov. DEC. | 29 17 54 29 6 33 27 19 22 26 8 6 25 20 50 | 28 19 3 27 5 29 5 25 18 52 25 11 16 2 9 18 38 4 24 5 56 |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--------------------------------------|---|---|--|---|--|--|---|
| B.C. 416. D. March. d. h. m. 26 8 56 | JAN FEB MAR APRIL OMAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 22 11 3 20 23 47 22 12 31 21 1 15 5 19 37 20 13 59 19 2 43 18 15 27 17 4 11 15 16 55 15 5 39 13 18 23 13 7 7 11 19 51 | d. h. m. 22 20 13 21 12 42 28 2 12 21 12 45 5 12 48 20 21 2 19 4 5 18 11 4 16 19 1 15 4 45 14 16 59 13 7 54 13 1 8 11 19 42 | B.C. 413. A.G. March. d. h. m. 26 2 23 | JAN FEB O MAR APRIL MAY . JUNE . O SEPT OCT NOV DEC | d. h. m. 20 2 18 18 14 57 { 4 9 19 19 3 41 17 16 25 17 5 9 15 17 58 15 6 87 {18 19 21 28 18 48 12 8 5 11 20 49 10 9 88 9 22 17 | d. h. m. 19 19 46 18 9 51 4 20 58 19 0 54 17 16 31 17 8 7 15 28 0 15 12 42 14 1 9 27 28 45 12 12 36 11 23 34 10 10 24 9 21 14 |
| c. 26 14 45 | FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 10 8 83 {11 21 19 26 15 41 10 10 3 9 22 47 8 11 31 8 0 15 6 12 59 5 1 43 4 14 27 3 8 11 { 2 15 55 { 1 4 39 | 10 14 18 12 7 18 26 12 31 10 22 2 10 10 1 8 19 41 8 3 54 6 11 43 4 20 4 4 5 42 2 17 6 2 6 27 31 21 39 | 412. F. 26 8 12 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 8 11 1 6 23 45 8 12 29 7 1 13 6 13 57 5 2 41 4 15 25 3 4 9 1 16 53 { 1 5 87 30 18 21 29 7 5 28 19 49 | 8 8 9 6 19 18 8 6 48 6 19 19 6 9 2 4 28 52 4 15 24 8 6 55 1 21 51 1 11 51 31 0 49 29 12 49 28 28 58 |
| E. 26 20 34 | FEB MAR. C APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | \$0 17 28 \$1 6 8 \$16 0 30 \$0 18 52 29 7 36 28 20 20 27 9 4 26 21 48 25 10 32 \$\ 9 \ 4 54 \$\ 23 28 16 23 12 0 22 0 44 21 18 28 | 30 14 14 1 7 28 16 4 58 31 0 18 29 15 48 29 5 21 27 16 59 27 3 4 25 12 21 8 19 49 28 21 47 28 7 48 21 18 45 21 6 43 | 411. E. 26 14 1 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | {12 14 12 27 8 84 25 21 18 27 10 2 25 22 46 25 11 30 24 0 14 { 8 18 36 { 28 12 58 22 1 42 20 14 26 20 3 10 18 15 54 18 4 38 | 12 17 20 27 10 5 25 19 88 27 5 5 25 15 18 25 2 45 23 16 12 8 19 46 23 7 88 22 0 10 20 17 18 20 9 44 19 0 57 18 14 26 |

| Mean Vernal Equinox | Month. | Mean New Moon. | Frue New Moon. True Full Ecl. | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | rue New Moon, Full Kcl.) |
|--|--|--|---|--|--|---|--|
| B.C. 410. D. March. d. h. m. 26 19 49 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OUT NOV DEC | d. h. m. { 1 23 0 16 17 23 15 6 7 16 18 51 15 7 35 14 20 19 { 18 9 3 25 12 21 47 11 10 31 9 23 15 9 11 50 8 0 48 | d. h. m. 1 17 82 17 2 3 15 11 56 16 20 29 15 4 25 14 12 40 12 22 14 28 10 43 12 10 0 11 0 26 9 17 17 9 11 36 8 6 6 7 23 25 21 23 57 | B.C. 407. G. March. d. h. m. 26 13 16 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | 18 8 32 11 21 16 13 10 0 {11 22 44 {26 17 6 11 11 28 | d. h. m. 18 14 56 12 8 86 13 28 38 12 11 27 26 9 49 11 20 44 10 4 20 9 11 19 7 18 47 6 3 39 5 14 41 21 4 42 4 4 17 3 20 28 |
| 409. c.B | JAN FEB | 6 2 11 4 14 55 | 6 14 34 5 3 5 5 13 6 | F. 26 19 5 | FEB MAR | 1 6 5 2 18 49 | 1 8 49 3 2 37 |
| 23 1 89 | MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | 25 10 59 | 3 21 15 3 4 20 (1 11 24 16 19 23 30 19 33 30 5 49 28 19 0 27 11 11 27 5 42 26 1 12 25 20 1 | | MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC. | 30 20 17 30 9 1 28 21 45 28 10 29 26 23 13 25 11 57 (10 6 19 25 0 41 28 13 25 | 1 18 30 15 20 48 { 1 7 50 80 18 39 29 3 36 23 11 39 26 19 49 25 4 55 10 8 54 24 15 31 23 3 58 22 18 4 |
| 408. A. 26 7 2 | JAN. FEB. MAR. APRIL MAY JUNE | 22 12 28 24 1 12 22 13 56 22 2 40 | 1 | : | APRIL May | . 20 16 22 19 5 6 . 18 17 50 | 21 9 48 20 2 33 20 19 27 19 11 35 19 2 12 17 14 52 |
| | July Aug. Sept. Oct. O Nov. Dec. | . 20 4 8 . 18 16 52 . 17 5 36 . {16 18 20 {31 12 42 | 19 18 32 18 3 48 16 15 45 0 16 6 44 2 31 17 25 4 15 0 24 | 3 5 6 8 8 | June July Aug. Sept. Oct. Nov. Dec. | . 16 19 18 . 15 8 2 . 13 20 46 . 13 9 30 | 17 1 50 15 11 40 13 21 11 13 7 2 11 17 37 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|------------------------------|---------------------------|---|---|--|--------------------------|--|---|
| B.C. 404. c. March. | JAN FEB | d. h. m. 9 23 42 8 12 26 23 6 49 | d. h. m. 9 17 21 8 6 38 23 19 47 | B.C. 401. G.F. March. d. h. m. 26 0 9 | JAN FEB MAR | d. h. m. 7 14 52 6 3 36 6 16 20 | d. h. m. 8 0 49 6 11 24 6 20 22 |
| d. h. m. 26 6 42 | O Mar April May. | 10 1 10 8 13 54 8 2 33 | 9 20 56 8 12 3 8 3 36 | | APRIL MAY . June . | 5 5 4 4 17 48 8 6 32 | 5 4 20 4 12 6 2 20 45 |
| | June . July . Aug O | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6 18 55 6 9 23 4 22 41 18 21 19 | | Aug Sept | $ \begin{array}{c cccc} 2 & 19 & 16 \\ 1 & 8 & 0 \\ 30 & 20 & 44 \\ 29 & 9 & 28 \end{array} $ | $ \begin{cases} 2 & 7 & 16 \\ 31 & 20 & 23 \end{cases} $ $ 30 & 12 & 11 \\ 29 & 6 & 5 $ |
| | SEPT OCT Nov | $\begin{array}{c} 3 & 5 & 34 \\ 2 & 18 & 18 \\ 1 & 7 & 2 \\ 30 & 19 & 46 \end{array}$ | 8 10 54 2 22 20 1 9 23 30 20 18 | | Oct Nov O Dec | 28 22 12 27 10 56 {12 5 18 26 23 40 | 29 0 52 27 19 5 11 21 40 27 11 29 |
| 403. B. | DEC JAN | 30 8 30 28 21 15 \$12 15 37 | 30 7 5 28 17 53 13 4 42 | 400. E. 26 5 58 | Jan Feb Mar | 25 12 24 24 1 9 25 13 53 | 26 1 17 24 12 26 25 21 18 |
| 26 12 31 | MAR APRIL MAY. | 27 9 59 29 22 48 27 11 27 27 0 11 | 27 4 58 28 16 31 27 5 25 26 19 35 | | APRIL MAY . O JUNE . | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 24 4 89 28 11 81 7 15 55 21 18 56 |
| | JUNE . JULY . | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 25 10 50 25 2 35 8 10 33 23 18 8 | | JULY . AUG SEPT | 21 16 49 20 5 33 18 18 17 | 21 4 2 19 15 45 18 6 33 |
| | Aug SEPT OCT Nov DEC | 22 8 7 21 15 51 20 4 85 19 17 19 | 22 8 56 21 22 42 20 11 21 19 22 55 | | Nov O DEC | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 18 0 7 16 19 24 1 11 54 16 14 48 |
| 402. A. | Jan O Feb | 18 6 4 { 2 0 26 16 18 48 | 18 9 27 2 6 28 16 19 4 | 399. D. 26 11 47 | JAN FEB MAR | 14 21 14 13 9 58 14 22 42 | 15 8 41 13 23 52 15 11 58 |
| 26 18 20 | MAR APRIL MAY . | 18 7 82 16 20 16 16 9 0 | 18 4 15 16 18 41 16 0 14 | | MAY . O JUNE . | 18 11 26 {18 0 10 {27 18 32 11 12 54 | |
| | JUNE. JULY. O Aug | $ \begin{array}{c cccccccccccccccccccccccccccccccc$ | 14 12 84 14 2 59 29 8 19 12 19 12 | | JULY . Aug Sept | 11 1 38 9 14 22 8 3 6 | 10 18 26 9 2 44 7 13 22 |
| | SEPT Oct Nov DEC | 11 11 56 11 0 40 9 13 24 9 2 8 | 11 12 28 11 5 88 9 21 45 9 12 16 | | Oct Nov O Dec | $ \begin{array}{c cccc} 7 & 15 & 50 \\ 6 & 4 & 84 \\ 20 & 22 & 56 \\ \hline 5 & 17 & 18 \\ \end{array} $ | 5 19 20 21 8 83 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------|----------------|----------------------------|-----------------|------------------------------------|------------------------------------|
| B.C. 398. | , | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| C. | JAN | 4 6 2 | 4 9 21 | 395. | JAN | 80 9 56 | 30 3 58 |
| March. $d. h. m.$ | FEB | 2 18 46 | 3 3 52 | F. | FEB | 28 22 40 | 28 17 27 |
| 26 17 35 | MAR | 4 7 30 | 4 20 10 | March, d. h. m. | 0 | (15 17 2 | 16 4 50 |
| | APRIL | 2 20 14 | 8 9 31 | 26 11 2 | MAR | 30 11 24 | 30 7 54 |
| | | (2 8 58 | 2 20 1 | | APRIL | 29 0 8 | 28 23 6 |
| | May O | 17 3 20 | 16 19 27 | | MAY . | 28 12 52 | 28 14 33 |
| | | (31 21 42 | f 1 4 22 | | June. | 27 1 36 | 27 5 36 |
| | June. | 80 10 26 | (30 11 35 | | JULY. | 26 14 20 | 26 19 44 |
| | JULY. | 29 23 10 | 29 18 48 | | Aug | 25 8 4 | 25 8 44 |
| | Aug | 28 11 54 | 28 3 1 | | 0 | ∫ 8 21 26 | 8 7 28 |
| | SEPT | 27 0 38 | 26 18 3 | | SEPT., | 128 15 48 | 23 20 48 |
| | Oct | 26 13 22 | 26 1 24 | | Ост | 23 4 32 | 23 8 15 |
| | Nov | 25 2 6 | 24 16 15 | | Nov | 21 17 16 | 21 19 20 |
| | DEC. , | 24 14 50 | 24 9 13 | | DEC | 21 6 0 | 21 6 9 |
| 397. | JAN | 23 3 35 | 23 3 26 | 004 | - | 40 40 44 | |
| B.A. | FEB | 21 16 19 | 21 21 33 | 394. | JAN | 19 18 45 | 19 16 47 |
| 25 23 24 | MAR. | 22 5 8 | 22 14 21 | | FEB. , | 18 7 29 | 18 3 23 |
| | Q | 6 5 23 25 | 5 20 14 | 26 16 51 | MAR | 19 20 13 | 19 14 24 |
| | APRIL | 120 17 47 | 21 4 57 | | APRIL | 18 8 57 | 18 2 21 |
| | MAY, | 20 6 31 | 20 17 0 | | MAY . June . | 17 21 41 16 10 25 | 17 15 83 16 6 21 |
| | JUNE . | 18 19 15 | 19 2 54 | | JULY. | 15 28 9 | |
| | JULY. | 18 7 59 | 18 11 27 | | Aug. | 14 11 58 | 15 22 1 14 18 57 |
| | Aug | 16 20 43 | 16 19 39 | | SEPT. | 18 0 87 | 13 5 29 |
| | SEPT | 15 9 27 | 15 4 24 | | Oct. | 12 18 21 | 12 20 4 |
| | Ocr | 14 22 11 | 14 14 21 | | Nov. | 11 2 5 | 11 9 82 |
| | Nov | 13 10 55 | 18 1 51 | | DEC. | 10 14 49 | 10 21 44 |
| | Dec. , | 12 23 39 | 12 15 3 | | 2.50. | 10 11 10 | 20 21 12 |
| 398. | JAN., | 11 12 24 | 11 5 52 | 393. | JAN | 1 9 8 83 | 9 8 42 |
| G. | FEB. | 10 1 8 | 9 21 54 | p.c. | 0 | 28 21 55 | 24 1 0 |
| 26 5 13 | MAR., | (11 18 52 | 11 12 84 | | FEB | 7 16 17 | 7 18 84 |
| | 0 | 26 8 14 | 26 12 52 | 25 22 40 | MAR | 8 5 1 | 8 8 41 |
| | APRIL | 10 2 36 | 10 7 1 | | APRIL | 6 17 45 | 6 12 89 |
| | MAY . | 9 15 20 | 9 22 25 | | MAY . | 6 6 29 | 5 22 19 |
| | June . | 8 4 4 | 8 12 9 | | JUNE. | 4 19 18 | 4 9 81 |
| | JULY . | 7 16 48 | 8 0 6 | | JULY. | § 4 7 57 | 8 22 52 |
| | Aug | 6 5 32 | 6 10 39 | | 0 | 19 2 19 | 19 8 21 |
| | SEPT | f 4 18 16 | 4 20 80 | | Aug | 2 20 41 | 2 14 18 |
| | 0 | 110 12 38 | 19 8 18 | | SEPT | { 1 9 25 | 1 7 18 |
| | Ocr | 4 7 0 | 4 6 20 | 1 | | 180 22 9 | f 1 0 52 |
| | Nov | 2 19 44 | 2 16 40 | 1 | Oct | 80 10 58 | (80 17 54 |
| | DEC | ∫ 2 8 28 | 2 3 40 | | Nov. | 28 28 87 | 29 9 80 |
| | | 181 21 12 | 81 15 25 | | DEC | 28 12 21 | 28 28 7 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (○ Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|---|---|--|---|---|--|
| B.C. 392. B. March. d. h. m. 26 4 28 | C JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | d. h. m. 12 1 33 27 10 36 25 20 11 27 4 22 25 11 56 24 19 52 23 5 15 8 17 58 22 17 0 21 7 33 20 0 39 19 19 21 18 14 11 18 7 43 | B.C. 389. F.E. March. d. h. m. 25 21 55 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O Nov DEC | d. h. m. 24 16 16 23 5 0 23 17 44 22 6 28 { 7 0 50 21 19 12 20 7 56 19 20 40 18 9 24 16 22 8 { 16 10 52 31 5 14 14 23 36 14 12 20 | d. h. m. 24 22 38 23 16 4 24 6 52 22 18 42 6 16 46 22 4 1 20 11 44 19 18 58 18 2 43 16 11 54 15 28 9 31 18 3 14 12 46 14 4 39 |
| 391. a. 26 10 17 | O JAN FEB MAR APRIL MAY JUNE O JULY . AUG SEPT OCT Nov DEC | 9 15 47 9 4 31 7 17 15 | 1 8 90 16 22 55 15 11 17 16 21 4 15 4 57 14 11 49 12 18 47 28 2 8 12 2 54 10 13 15 9 2 35 8 18 55 7 13 35 7 9 11 | 388. D. 26 8 44 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT ONOV DEC | 18 1 5 11 18 49 18 2 38 {11 15 17 26 9 39 11 4 1 9 16 45 9 5 29 7 18 13 6 6 57 { 5 19 41 20 14 8 4 8 25 8 21 9 | 12 22 11 11 16 17 18 9 48 12 1 24 26 4 8 11 14 48 10 1 48 9 10 59 7 19 26 6 4 8 5 18 30 20 16 44 4 0 18 3 12 33 |
| 390. c. 26 16 6 | Jan. Feb. Mar. April May June July Aug. Sept. Oct. O Nov. Dec. | 4 8 55 3 21 39 2 10 23 1 23 7 81 11 51 30 0 35 | 1 18 95 81 2 11 29 11 39 27 23 47 27 14 51 5 12 2 11 7 26 8 28 | 387. c. 26 9 33 | JAN FEB MAR APRILO MAY . JUNE . JULY . AUG SEPT Oct Nov Dec. | (80 12 49 80 1 88 28 14 17 28 3 1 26 15 45 25 4 29 24 17 18 | 24 15 49 28 2 88 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|---|---|---|--|--|---|
| B.C. 386. B. March. d. h. m. 26 15 21 | JAN FEB O MAR APRIL MAY . JULY . AUG O SEPT OOT Nov DEC | d. h. m. 21 7 26 19 20 10 { 6 14 32 21 8 54 19 21 38 19 10 22 17 23 6 17 11 50 { 16 0 34 30 18 56 14 13 18 14 2 2 12 14 46 12 3 30 | d. h. m. 21 1 47 19 14 30 7 8 42 21 4 9 19 18 47 19 10 4 18 1 25 17 16 18 16 6 4 80 5 2 14 18 52 14 6 52 12 18 17 12 5 15 | B.C. 383. E. March. d. h. m. 26 8 48 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov | d. h. m. 17 22 35 16 11 20 18 0 4 16 12 48 16 1 32 14 14 16 14 3 0 12 15 41 11 4 28 10 17 12 9 5 56 { 8 18 40 28 13 2 | d. h. m. 18 9 24 16 19 46 18 4 24 16 11 59 15 19 28 14 8 54 13 14 20 12 3 30 10 19 31 10 13 42 9 8 49 9 3 18 23 6 22 |
| 385. A.G. 25 21 10 | JAN FEB O O O O DEC | $ \begin{cases} 9 & 4 & 59 \\ 23 & 23 & 21 \\ 9 & 17 & 43 \\ 8 & 6 & 27 \\ 7 & 19 & 11 \\ 6 & 7 & 55 \\ 5 & 20 & 39 \\ 4 & 9 & 28 \\ 19 & 3 & 45 \\ 2 & 22 & 7 \\ 2 & 10 & 51 \\ 81 & 23 & 35 \\ 30 & 12 & 19 \\ 30 & 1 & 3 \end{cases} $ | 10 15 53 9 2 15 24 12 20 9 12 42 7 23 49 7 12 12 6 2 7 5 17 23 4 9 26 18 18 28 8 1 81 2 16 55 { 1 7 18 80 20 11 30 7 46 | 382. b. 26 14 37 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV O DEC | | 7 19 48 6 9 88 7 20 27 6 5 8 5 12 18 3 18 55 18 22 81 3 2 19 1 11 29 80 28 20 29 14 17 29 8 0 28 3 28 12 20 51 27 22 47 |
| 384. F. 26 2 59 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | 28 18 47 {12 8 9 27 2 81 28 15 15 27 8 59 26 16 48 25 5 27 24 18 11 { 8 12 88 28 6 55 21 19 89 21 8 28 19 21 7 19 9 51 | 28 18 3 12 18 55 27 8 18 28 12 0 26 20 58 26 7 9 21 19 18 24 9 45 8 11 8 28 2 12 21 19 50 21 18 31 20 6 7 10 20 52 | 381. c.n. 25 20 26 | JAN FEB MAR | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 21 18 56 21 2 8 19 10 81 17 21 24 17 11 2 16 8 29 1 12 27 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| B.C. 380. | | d. h. m. | d. h. m. | B.C. 377. | | d. h. m. | d. h. m. |
| A. | JAN | 14 13 45 | 14 17 5 | E.D. | JAN | 12 4 56 | 12 0 2 |
| March. $d. h. m.$ | FEB | 13 2 29 | 13 11 21 | March. | FEB | 10 17 40 | 10 12 4 |
| 26 2 14 | MAR | 14 15 14 | 15 3 28 | d. h. m. 25 19 41 | MAR | (11 6 24 | 11 0 57 |
| | APRIL | 13 3 58 | 13 16 43 | | 0 | 26 0 46 | 26 12 34 |
| | MAY. | (12 16 42 | 13 3 13 | | APRIL | 9 19 8 | 9 14 49 |
| | 0 | 27 11 4 | 27 2 14 | | MAY . | 9 7 52 | 9 5 39 |
| | JUNE. | 11 5 26 | 11 11 41 | | June . | 7 20 36 | 7 21 0 |
| | JULY. | 10 18 10 | 10 19 8 | | JULY . | 7 9 20 | 7 12 15 |
| | Aug | 9 6 54 | 9 2 40 | | Aug | 5 22 4 | 6 2 50 |
| | SEPT | 7 19 38 | 7 11 12 | 1 | SEPT. | (4 10 48 | 4 16 27 |
| | Oct | 7 8 22 | 6 21 30 | | 0 | 19 5 10 | 18 15 22 |
| | Nov | 5 21 6 | 5 9 56 | | Ост | 3 23 32 | 4 5 6 |
| | DEC | 5 9 50 | 5 0 40 | | Nov | 2 12 16 | 2 17 0 |
| | | | | | _ | (210 | 2 4 18 |
| 379. | _ | | | | DEC | 31 13 44 | 31 15 3 |
| G. | JAN | 3 22 34 | 8 17 17 | | | ` | |
| 26 8 3 | FEB | 2 11 18 | 2 11 0 | 376. | JAN | 30 2 28 | 80 1 20 |
| 20 8 8 | MAR | 4 0 2 | 4 4 43 | с. | FEB | 28 15 12 | 28 11 26 |
| | APRIL | 2 12 46 | 2 21 14 | 26 1 30 | MAR. | 30 3 56 | 29 21 52 |
| | MAY . | 2 1 30 | 2 11 45 | | APRIL | 28 16 40 | 28 9 17 |
| | 1 | (31 14 14 | 31 23 56 | | MAY. | 28 5 24 | 27 22 15 |
| | JUNE . | 30 2 58 | 30 10 7 | | June . | 26 18 8 | 26 12 51 |
| | JULY. | 29 15 42 | 29 19 4 | | JULY. | 26 6 52 | 26 4 42 |
| | Aug | 28 4 26 26 17 10 | 28 3 42 | | Aug | 24 19 86 | 24 21 5 |
| | SEPT | 26 17 10 26 5 54 | 26 12 52 25 23 5 | | SEPT | 23 8 20 | 23 13 12 |
| | Nov. | 24 18 38 | 25 23 5 24 10 39 | | Oct | 22 21 4 | 23 4 23 |
| | DEC. | 24 7 22 | 23 23 37 | | Nov | 21 9 48 | 21 18 13 |
| | DEC | 24 . 22 | 20 20 01 | | DEC | 20 22 32 | 21 6 33 |
| | 1 | | | | | | |
| 378. | JAN | 22 20 7 | 22 13 57 | 375. | JAN | 19 11 17 | 19 17 25 |
| F. | FEB | 21 8 51 | 21 5 25 | В. | 0 | (8 5 89 | 3 8 83 |
| 26 13 52 | MAR | 22 21 35 | 22 21 33 | | FEB | 18 0 1 | 18 2 57 |
| | 0 | 6 15 57 | 6 20 39 | 26 7 19 | MAR. | 19 12 45 | 19 11 37 |
| | APRIL | 21 10 19 | 21 13 38 | | APRIL | 18 1 29 | 17 20 8 |
| | MAY . | 20 23 3 | 21 4 58 | | MAY . | 17 14 18 | 17 5 24 |
| | JUNE. | ,19 11 47 | 19 18 53 | | June . | 16 2 57 | 15 16 22 |
| | JULY. | 19 0 31 | 19 7 14 | | JULY. | (15 15 41 | 15 5 38 |
| | Aug | 17 13 15 | 17 18 19 | | 0 | 30 10 3 | 30 11 4 |
| | SEPT | ∫16 1 59 | 16 4 42 | | ΑΰG | 14 4 25 | 13 21 15 |
| | 0 | (30 20 21 | 30 10 53 | | SEPT | 12 17 9 | 12 14 36 |
| | Oct. | 15 14 43 | 15 15 1 | | Oct | 12 5 53 | 12 8 38 |
| | Nov. | 14 3 27 | 14 1 85 | | Nov | 10 18 37 | 11 2 8 |
| | DEC | 13 16 11 | 13 12 35 | | DEC | 10 7 21 | 10 18 2 |
| | | 1 | | | | | |
| | | | | | | | |

| Mean Vernal Equipos | Month. | Mean Now Months, () Fall E. (): | True Now M sm. Pull Rel 1 | Vernal | Month | Mean New Moon. (: Full Ect.) (| True New Moon.) Full Ecl.) |
|---------------------------|------------|-----------------------------------|---------------------------|--------------|---------|---------------------------------------|-----------------------------|
| B.C. | 400 | d, h, m, | d, h. m. | B.C. 371. | , | d. h. m. | d. h. m. |
| 374. | JAN | (H 201 5 | 9 7 42 | March. | JAM | 5 11 16 | 5 11 27 |
| March. | () | 123 14 27 | 20 9 90 | d. h. m. | Frm | 4 0 0 | 4 6 12 |
| d. h. m. | Fup. | . 7 H M | 7 19 8 | 26 6 84 | Man. | 5 12 44 | 6 28 28 |
| 26 13 7 | MAH. | H 21 BI | 9 4 19 | | Arnie | 4 1 24 | 4 14 2 |
| | Aran | 7 10 18 | 7 12 9 | | MAY . | 8 14 12 | 4 1 51 |
| | MAY . | 6 28 2 | 6 19 23 | | () | LIH HBI | 17 23 41 |
| į, | Jiwa, | 5 11 40 | 5 8 7 | | Juna. | 2 2 56 | 2 11 15 |
| | July. | 5 0 30 | 4 12 24 | | Juny . | 1 15 40 | 1 19 12 |
| 1 | | \$19 IN 62 | 20 1 17 | | | (81 4 21 | 81 2 44 |
| ı | Ara | 2 1 54 | 8 0 9 1 14 51 | | Atta. | 20 17 H | 29 10 50 27 20 19 |
| | Barr. | C 1 14 42 | 1 14 51 | | NEPT. | 24 5 52 27 18 80 | 27 20 19 27 7 48 |
| | Oct | HI B 26 | 81 8 11 | | Oct. | 111 12 6A | 11 21 29 |
| (| Nov | 22: 16: 10 | 20 22 18 | | Nov. | 20 7 20 | 25 21 18 |
| | Dac. | 29 4 54 | 29 15 54 | | Dgo. | 25 20 4 | 25 12 55 |
| | A PRINCE . | | #13 #15 FM3 | | i areas | MALE MALE | A-1 28 101 |
| | 0 | (12 23 16 | 12 16 59 | 370. | JAN | 24 H 4H | 24 5 54 |
| 373. | Jan | 27 17 BH | 24 7 6 | r. | Fan. | 22 21 82 | 22 28 81 |
| 4.7. | Fun | 26 6 22 | 20 10 10 | 26 12 28 | MAR. | 24 10 16 | 24 16 89 |
| 20 18 66 | MAR. | 26 10 6 | 27 4 52 | | Arnit. | 22 28 0 | 28 H 10 |
| | Arnit | 25 7 50 | 25 12 81 | | 1. | (7 17 21 | 7 11 20 |
| | MAY . | 21 20 34 | 21 10 15 | | MAY . | 122 11 41 | 22 21 82 |
| | Junn . | 23 0 1H | 28 2 10 | | dean, | 21 0 28 | 21 8 46 |
| | O | H 8 40 | H H 54 | | Just . | 20 18 12 | 20 18 25 |
| | July . | ्रियाध्य व | 22 10 21 | | Ara | 19 1 56 | 19 8 91 |
| | Ava | 81 10 46 | क्षा का सा | | Mart | 17 14 40 | 17 12 23 |
| | Harr | 19 28 80 | 10 to 14 | | Orr | § 17 8 24 | 16 22 11 |
| | Oct | 19 12 14 | 19 2 48 | | O | ÇB1 21 46 | / 1 0 89 |
| | Nov | 14 0 5H | 17 21 88 | | Nov. | | 115 9 7 |
| | Dac. | 17 18 42 | 17 17 9 | | Dac. | 15 4 52 | 14 21 19 |
| 372. | 7 | 16 9 27 | 16 11 54 | 369. | JAN | 18 17 87 | 18 10 48 |
| a. | Jan Pun | 16 9 97 | 15 4 21 | M.A. | Fus. | 19 6 91 | 19 1 98 |
| 96 0 48 | MAR. | 16 8 55 | 16 17 45 | 95 18 12 | MAR. | 12 19 6 | 19 17 0 |
| W 0 40 | Armit | 14 16 80 | 15 4 12 | W1 76 19 | APRIL | (11 7 40 | 11 9 1 |
| | May . | 14 5 23 | 14 12 23 | | O | 290 2 11 | 26 4 1 |
| | Junn . | 12 18 7 | 12 19 20 | | MAY . | 10 90 88 | 11 0 42 |
| | Jose . | 12 6 61 | 12 2 11 | | June . | 9 9 17 | 9 15 25 |
| | Aug. | | 10 9 80 | | July . | H 223 1 | 9 4 48 |
| | Bart. | | 8 | | Ave. | 1 | |
| | O: 7. | 1 | | | Barr. | | 6 8 86 |
| | Nov. | 1 | | | Our. | 6 12 18 | 5 14 7 |
| | 0 | 22 4 9 | 22 11 0 | | Nov. | 1 | 4 0 42 |
| | Dac | 6 22 81 | 6 16 85 | | Date. | 8 18 41 | 8 11 81 |
| | | | | | | 1 | |

養學

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| B.C. | P | d. h. m. | d. h. m. | B.C. 365. | | d. h. m. | d. h. m. |
| 368. | _ | (2 2 25 | 1 22 37 | D.C. | JAN | 29 6 19 | 29 17 52 |
| G. | JAN | 31 15 9 | 31 10 7 | March. d. h. m. | FEB | 27 19 3 | 28 3 59 |
| March. | FEB | | | 25 17 27 | MAR | 28 7 47 | 28 12 15 |
| d. h. m. | | (2 3 53 | 1 22 13 | | APRIL | 26 20 31 | 26 19 32 |
| 26 0 0 | MAR.O | 16 22 15 | 17 11 26 | | MAY . | 26 9 15 | 26 2 46 |
| | | 31 16 37 | 31 11 17 | | JUNE . | 24 21 59 | 24 11 5 |
| | APRIL | 30 5 21 | 30 1 27 | | JULY . | 24 10 43 | 23 21 30 |
| | MAY . | 29 18 5 | 29 16 30 | | Aug | 22 23 27 | 22 10 46 |
| | JUNE. | 28 6 49 | 28 7 56 | | SEPT | 21 12 11 | 21 3 0 |
| | JULY. | 27 19 33 | 27 23 6 | | Oct | 21 0 55 | 20 21 27 |
| | AUG | 26 8 17 | 26 13 30 | | Nov | 19 13 39 | 1 9 16 48 |
| | SEPT | 24 21 1 | 25 2 56 | | DEC | 19 2 23 | 19 11 26 |
| | Oct | 24 9 45 | 24 15 26 | | | | |
| | Nov. | 22 22 29 | 23 3 10 | | 0 | § 2 20 45 | 2 15 2 |
| | DEC | 22 11 13 | 22 14 12 | 364. | JAN | 17 15 8 | 18 3 58 |
| 367. | T | 20 23 58 | 21 0 35 | в. | FEB | 16 3 52 | 16 17 35 |
| F. | JAN | 19 12 42 | 19 10 30 | 25 23 16 | MAR | 17 16 36 | 18 4 18 |
| | FEB | (6 7 4 | 6 19 46 | | APRIL | 16 5 20 | 16 12 41 |
| 26 5 49 | 0 | 21 1 26 | 20 20 24 | | MAY . | 15 18 4 | 15 19 40 |
| 20 5 45 | MAR. | 19 14 10 | 19 6 59 | | JUNE . | ∫14 6 4 8 | 14 2 20 |
| 1 | APRIL | 19 2 54 | 18 18 56 | | 0 | 29 1 10 | 29 5 8 |
| | MAY . | 17 15 38 | 17 8 38 | | JULY. | 13 19 32 | 13 9 47 |
| | JUNE . | 17 4 22 | 16 23 59 | | Aug | 12 8 16 | 11 19 5 |
| | JULY. | (15 17 6 | 15 16 23 | | SEPT | 10 21 0 | 10 7 3 |
| | Aug | 30 11 28 | 30 2 31 | | Oct | 10 9 44 | 9 22 10 |
| | SEPT. | 14 5 50 | 14 9 0 | | Nov | 8 22 28 | 8 15 58 |
| | _ | 13 18 34 | 14 1 0 | | DEC | 8 11 12 | 8 11 21 |
| 1 | Nov. | 12 7 18 | 12 15 46 | | 0 | 23 5 34 | 28 5 47 |
| | DEC. | 11 20 2 | 12 4 58 | | _ | | |
| | | | | 363. | JAN | 6 23 57 | 7 6 41 |
| 366. | JAN. | 10 8 46 | 10 16 33 | Α. | FEB | 5 12 41 | 6 0 20 |
| E. | FEB | 8 21 30 | 9 2 33 | 26 5 5 | MAR. | 7 1 25 | 7 15 13 |
| 00.44.00 | | 23 15 52 | 23 21 13 | | APRIL | 5 14 9 | 6 3 2 |
| 26 11 38 | MAR. | 10 10 15 | 10 11 24 | | MAY . | 5 2 58 | 5 12 12 |
| | APRIL | 8 22 59 | 8 19 39 | | JUNE. | 3 15 37 | 3 19 38 |
| | MAY. | 8 11 43 | 8 4 13 | | , O | (18 9 59 | 18 5 58 |
| | JUNE . | | 6 14 6 | | JULY. | 3 4 21 | 3 2 29 |
| | JULY. | 6 13 11 | 4 16 37 | | Aug | 1 17 5 | 1 9 47 |
| | AUG | 5 1 55 | 19 19 7 | | | (31 5 49 | 30 18 33 |
| | 4. 1 | 3 14 39 | 3 9 21 | | SEPT | 29 18 33 | 29 5 85 |
| | SEPT | 3 3 23 | 3 3 26 | | Oct | 29 7 17 | 28 19 20 |
| | Nov. | 1 16 7 | 1 21 34 | | Nov | 27 20 1 | 27 11 42 |
| 1 | 1_ | (1 4 51 | 1 14 32 | | 0 | 12 14 23 | 12 21 21 |
| | DEC | 30 17 35 | | | DEC | 27 8 45 | 27 5 55 |
| 1 | 1 | 1 (50 11 35 | 81 5 25 | I I | | 1. 1 | I |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 362. | | d. h. m. | d. h. m. | B.C. 359. | | d. h. m. | d. h. m. |
| G. March. | JAN | 25 21 29 | 26 0 44 | c. March. | JAN | 22 12 39 | 22 8 34 |
| d. h. m. | Fев | 24 10 13 | 24 18 43 | d. h. m. | FEB | 21 1 23 | 20 20 4 |
| 26 10 53 | Mar | 25 22 57 | 26 10 37 | 26 4 20 | MAR | 22 14 7 | 22 8 18 |
| | APRIL | 24 11 41 | 24 23 47 | | 0 | ∫ 6 8 29 | 6 20 8 |
| 1 | MAY . | 24 0 25 | 24 10 21 | | APRIL | 21 2 51 | 20 21 39 |
| } | a | § 7 18 47 | 7 9 0 | | MAY . | 20 15 35 | 20 12 8 |
| | JUNE . | 22 13 9 | 22 19 1 | | June . | 19 4 19 | 19 3 26 |
| | July. | 22 1 53 | 22 2 46 | | JULY. | 18 17 3 | 18 18 56 |
| | Aug | 20 14 37 | 20 10 89 | | Aug | 17 5 47 | 17 10 2 |
| | SEPT | 19 3 21 | 18 19 32 | | SEPT | ∫15 18 31 | 16 0 16 |
| ľ | Oct | 18 16 5 | 18 6 3 | | 0 | (30 12 53 | 29 22 24 |
| | Nov | 17 4 49 | 16 18 33 | | Ост | 15 7 15 | 15 13 30 |
| | DEC | 16 17 33 | 16 9 4 | | Nov | 13 19 59 | 14 1 4 9 |
| | | | | | DEC | 13 8 43 | 13 13 14 |
| 361. | Τ | 15 6 18 | 15 1 17 | | | | |
| 501. F.E. | JAN | | | 358. | JAN | 11 21 28 | 11 23 52 |
| | FEB | | 13 18 30 | в. | FEB | 10 10 12 | 10 9 47 |
| 25 16 42 | MAR | ' | 14 11 46 | 26 10 9 | MAR | 11 22 56 | 11 19 21 |
| | APRIL | 12 20 30 12 9 14 | 13 4 2 12 18 30 | | APRIL | 10 11 40 | 10 5 15 |
| | MAY . | 12 9 14 10 21 58 | | | MAY . | 10 0 24 | 9 16 13 |
| | JUNE . | 10 10 42 | 11 6 52 10 17 24 | | JUNE . | 8 13 8 | 8 4 58 |
| | JULY. | 8 23 26 | 9 2 47 | | JULY. | 8 1 52 | 7 19 26 |
| | AUG | 7 12 10 | 7 11 54 | | Aug | 6 14 36 | 6 11 31 |
| 1 | _ | | 6 21 28 | | SEPT | (5 8 20 | 5 4 28 |
| | Nov | 7 0 54 5 13 38 | 5 7 56 | | 0 | 119 21 42 | 19 11 27 |
| 1 | DEC. | 5 2 22 | 4 19 29 | | Ocr | 4 16 4 | 4 21 8 |
| | DEC | 0 2 22 | 4 13 23 | | Nov | 3 4 48 | 8 12 45 |
| | | | | | DEC | 2 17 32 | 8 2 56 |
| 360. | JAN | 3 15 7 | 3 8 10 | | | | |
| D. | FEB | 2 8 51 | 1 21 58 | | l _ | (1 6 17 | 1 15 22 |
| 25 22 31 | MAR | 3 16 35 | 3 12 49 | 357. | JAN | 80 19 1 | 81 2 2 |
| | APRIL | ſ 2 5 19 | 2 4 25 | A.U. | FEB | 29 7 45 | 29 11 18 |
| 1 | 0 | 16 23 41 | 17 4 19 | 25 15 58 | MAR. | 29 20 29 | 29 19 25 |
| 1 | MAY . | 1 18 8 | 1 20 13 | | APRIL | 28 9 18 | 28 8 82 |
| 1 | MAI . | 81 6 47 | 81 11 29 | | MAY . | 27 21 57 | 27 12 29 |
| 1 | June . | 29 19 31 | 30 1 38 | | JUNE . | 26 10 41 | 25 23 15 |
| 1 | JULY. | 29 8 15 | 29 14 27 | | JULY . | 25 28 25 | 25 12 81 |
| 1 | Aug | 27 20 59 | 28 2 6 | | 0 | (9 17 47 | 9 18 58 |
| | SEPT | 26 9 48 | 26 13 3 | | Aug | 24 12 9 | 24 4 19 |
| 1 | 0 | ∫11 4 5 | 10 18 40 | | SEPT | 23 0 58 | 22 22 2 |
| | Ocr | 25 22 27 | 25 23 47 | | Ocr | 22 13 87 | 22 16 80 |
| 1 | Nov | 24 11 11 | 24 10 34 | | Nov | 21 2 21 | 21 10 24 |
| Ì | DEC | 28 23 55 | 23 21 28 | | DEC | 20 15 5 | 21 2 80 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|---------------|------------------------------------|------------------------------------|--------------------------------|------------|------------------------------|----------------------------------|
| B.C. 356. | Jan | d. h. m. 19 3 49 (2 22 11 | d. h. m. 19 16 11 2 17 20 | B.C. 353. c.s. March. | JAN Feb | d. h. m. 16 18 59 15 7 43 | d. h. m. 16 19 12 15 13 38 |
| March. | FEB | 17 16 33 | 18 3 19 | d. h. m. 25 15 13 | MAR. | 15 20 27 | 16 6 33 |
| d. h. m. 25 21 46 | MAR. | 19 5 17 | 19 12 16 | 20 10 10 | APRIL | 14 9 11 | |
| 20 21 20 | APRIL | 17 18 1 | 17 19 47 | | MAY . | (13 21 55 | |
| | MAY. | 17 6 45 | 17 2 49 | | 0 | 28 16 17 | 14 8 53 28 6 35 |
| | JUNE . | 15 19 29 | 15 10 22 | | June . | 12 10 39 | 12 18 29 |
| | JULY. | (15 8 13 | 14 19 37 | | JULY . | 11 23 23 | 12 2 41 |
| | 0 | 30 2 35 | 30 8 40 | | Aug | 10 12 7 | 10 10 35 |
| | Aug | 13 20 57 | 13 7 26 | | SEPT. | 9 0 51 | 8 19 3 |
| | SEPT | 12 9 41 | 11 22 18 | | Oct. | 8 13 35 | 8 4 51 |
| | Oct | 11 22 25 | 11 15 52 | | Nov. | (7 2 19 | 6 16 24 |
| | Nov | 10 11 9 | 10 11 4 | | 0 | 21 20 41 | 22 5 51 |
| | DEC | 9 23 53 | 10 6 21 | | DEC | 6 15 3 | 6 5 51 |
| 355. | JAN | (8 12 38 | 9 0 6 | 352. | Jan | 5 3 48 | 4 21 6 |
| E. | 0 | 23 7 0 | 23 1 24 | Α. | FEB | 3 16 32 | 3 13 39 |
| | FEB | 7 1 22 | 7 15 10 | 25 21 2 | Mar | 5 5 16 | 5 6 46 |
| 26 3 35 | MAR | 8 14 6 | 9 3 12 | | APRIL | .3 18 0 | 3 23 28 |
| | APRIL | 7 2 50 | 7 12 33 | | MAY . | (3 6 44 | 3 14 51 |
| | MAY . | 6 15 34 | 6 20 2 | | 0 | (18 1 6 | 17 18 50 |
| | JUNE . | 5 4 18 | 5 2 42 | | JUNE . | 1 19 28 | 2 4 21 |
| | JULY. | 5 4 17 2 | 4 9 38 | | JULY. | (1 8 12 | 1 15 53 |
| | 0 | (19 11 24 | 19 15 45 | | SOLY. | (30 20 56 | 31 1 58 |
| | Aug | 3 5 46 | 2 17 56 | | AυG | 29 9 40 | 29 11 21 |
| | SEPT | 1 18 30 | ∫ 1 4 85 | | SEPT | 27 22 24 | 27 20 52 |
| | Oct | § 1 7 14 | \30 18 12 | | Oct | 27 11 8 | 27 7 0 |
| | 37 | 30 19 58 | 30 10 47 | | 0 | §11 5 30 | 11 8 37 |
| | Nov | 29 8 42 | 29 5 33 | | Nov | 25 23 52 | 25 18 1 |
| | DEC | 28 21 26 | 29 1 4 | | DEC | 25 12 36 | 25 6 1 |
| 354. | JAN | 27 10 11 | 27 19 40 | 351. | Jan | 24 1 20 | 23 19 2 |
| D. | Гев. . | 25 22 55 | 26 11 57 | G. | FEB | 22 14 4 | 22 9 4 |
| 26 9 24 | MAR | 27 11 39 | 28 1 13 | 26 2 51 | MAR | 24 2 48 | 24 0 4 |
| 1 | APRIL | 26 0 23 | 26 11 34 | | APRIL | 22 15 32 | 22 15 37 |
| | MAY . | 25 13 7 | 25 19 45 | | o. | 7 9 54 | 7 11 33 |
| | June . | 24 1 51 | 24 2 48 | | MAY. | 22 4 16 | 22 7 9 |
| | JULY. | 23 14 35 | 23 9 52 | | JUNE . | 20 17 0 | 20 22 1 |
| | Aug | 22 3 19 | 21 17 55 | | July . | 20 5 44 | 20 11 42 |
| | SEPT | 20 16 3 | 20 3 52 | | Aug | 18 18 28 | 19 0 11 |
| | Oct | 20 4 47 | 19 16 18 | | SEPT | 17 7 12 | 17 11 43 |
| . | Nov | 18 17 31 | 18 7 23 | | Oct | 16 19 56 | 16 22 45 |
| | 0 | (3 11 53 | 3 19 50 | | Nov | 15 8 40 | 4F 0 0F |
| | DEC | 18 6 15 | 18 0 41 | | 7101. | 15 8 40 | 15 9 37 |

| lean rnal ninox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|--|
| .C. 50. | | d. h. m. | d. h. m. | B.C. 347. | | d. h. m. | d. h. m. |
| F. | JAN | 13 10 9 | 13 7 20 | B. | JAN | 10 1 19 | 10 13 53 |
| irch. | FEB | 11 22 53 | 11 18 20 | d. h. m. | FEB | 8 14 3 | 9 2 11 |
| h. m. 8 39 | MAR | (13 11 37 | 13 5 51 | 26 2 6 | Mar | 10 2 47 | 10 12 2 |
| 0 00 | 0 | 128 5 59 | 28 19 2 | | APRIL | 8 15 31 | 8 20 1 |
| | APRIL | 12 0 21 | 11 18 20 | | MAY. | 8 4 15 | 8 3 3 |
| | MAY. | 11 13 5 | 11 8 3 | | June . | 6 16 59 | 6 10 7 |
| | JUNE . | 10 1 49 | 9 22 56 | | July. | 6 5 43 | 5 18 22 |
| | JULY. | 9 14 33 | 9 14 30 | | Aug. | 4 18 27 | 4 4 50 |
| | Aug | 8 3 17 | 8 6 4 | | SEPT. | 3 7 11 | 2 18 13 |
| | SEPT. | 6 16 1 | 6 21 4 | | Oct. | 2 19 55 | 2 10 17 |
| | Oct. | 6 4 45 | 6 11 8 | | Ocr | (1 8 39 | 1 5 17 |
| | Nov. | 4 17 29 | 5 0 8 | | Nov | 30 21 23 | |
| | _ | 4 6 13 | 4 12 5 | | D | | $\begin{cases} 1 & 0.49 \\ 30.19 & 31 \end{cases}$ |
| | DEC | 4 0 15 | 4 12 5 | | DEC | 30 10 7 | (90 19 91 |
| 49. | JAN | 2 18 58 | 2 23 6 | : | 0 | 14 4 29 | 13 23 38 |
| E.D. | FEB | ,1 7 42 | 1 9 10 | 346. | JAN | 28 22 52 | 29 12 0 |
| | | 1 20 26 | 1 18 38 | Α. | FEB | 27 11 36 | 28 1 29 |
| 14 28 | MAR. O | 16 14 48 | 17 3 3 | 26 7 55 | MAR | 29 0 20 | 29 12 1 |
| | | 31 9 10 | 31 4 0 | | APRIL | 27 13 4 | 27 20 14 |
| | APRIL | 29 21 54 | 29 14 6 | | MAY . | 27 1 48 | 27 3 8 |
| | MAY . | 29 10 38 | 29 1 42 | | JUNE . | 25 14 32 | 25 9 48 |
| | JUNE . | 27 23 22 | 27 15 14 | | 0 | (10 8 54 | 10 11 47 |
| | JULY . | 27 12 6 | 27 6 41 | | JULY . | 25 3 16 | 24 17 21 |
| | Aug | 26 0 50 | 25 23 28 | } | Aug | 28 16 0 | 23 2 48 |
| | 0 | (9 19 12 | 9 10 43 | | SEPT | 22 4 44 | 21 14 59 |
| | SEPT | 24 13 34 | 24 16 37 | | OCT | 21 17 28 | 21 6 10 |
| | Oct | 24 2 18 | 24 9 9 | ŀ | Nov. | 20 6 12 | 19 23 59 |
| | Nov | 22 15 2 | 28 0 21 | | DEC | 19 18 56 | 19 19 17 |
| | DEC | 22 3 46 | 22 13 44 | | | | |
| | | | | | 0 | 3 13 18 | 3 14 40 |
| 48. | JAN | 20 16 30 | 21 1 12 | 345. | JAN | 18 7 40 | 18 14 28 |
| C. | FEB | 19 5 14 | 19 10 55 | G.F. | FEB | 16 20 24 | 17 7 56 |
| | 0 | ∫ 5 28 36 | 6 4 23 | 25 13 44 | MAR | 17 9 8 | 17 22 89 |
| 20 17 | MAR | 20 17 58 | 20 19 20 | | APRIL | 15 21 52 | 16 10 22 |
| | APRIL | 19 6 42 | 19 8 12 | | MAY. | 15 10 36 | 15 19 31 |
| | MAY . | 18 19 26 | 18 11 26 | | JUNE. | ∫18 28 20 | 14 8 8 |
| | JUNE . | 17 8 10 | 16 21 4 | | 0 | 28 17 42 | 28 12 24 |
| | July. | 16 20 54 | 16 9 0 | | JULY. | 13 12 4 | 13 10 4 |
| | Aug | ∫15 9 38 | 14 23 38 | | Aug | 12 0 48 | 11 17 38 |
| | 0 | 80 4 0 | 80 8 11 | | SEPT | 10 13 32 | 10 2 41 |
| | SEPT | 13 22 22 | 13 16 39 | ' , | Ocr | 10 2 16 | 9 18 56 |
| | Oct | 13 11 6 | 13 11 6 | | Nov | 8 15 0 | 8 3 43 |
| | Nov | 11 23 50 | 12 5 38 | | DEC | (8 8 44 | 7 19 54 |
| | DEC | 11 12 34 | 11 22 54 | A | 0 | 22 22 6 | 28 6 12 |
| 1 | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ect |
|----------------------------|-------------|------------------------------------|------------------------------------|----------------------------|---------|------------------------------|----------------------------------|
| B.C. 344. | | d. h. m. | d. h. m. | B.C. 341. | | d. h. m. | d. h. m |
| E. | JAN | 6 16 29 | 6 13 49 | B.A. | JAN | 4 7 39 | 4 6 17 |
| March. $d. h. m.$ | FEB | 5 5 13 | 5 8 17 | March. d. h. m. | FEB | 2 20 23 | 2 17 1 |
| 25 19 32 | MAR. | 6 17 57 | 7 1 54 | 25 12 59 | MAR | 3 9 7 | 8 8 56 |
| 1 | APRIL | 5 6 41 | 5 17 37 | | APRIL | (1 21 51 | 1 15 85 |
| | MAY . | 4 19 25 | 5 6 46 | | 0 | 16 16 18 | 17 8 37 |
| | JUNE . | (3 8 9 | 3 17 28 | | | (1 10 85 | 1 4 25 |
| | 0 | 18 2 31 | 17 15 49 | | MAY. | 80 28 19 | 30 18 88 |
| | JULY. | 2 20 53 | 3 2 22 | | June . | 29 12 8 | 29 9 50 |
| | | (1 9 37 | 1 10 29 | | JULY. | 29 0 47 | 29 1 45 |
| | Aug | 30 22 21 | 30 18 46 | | Aug. | 27 13 31 | 27 17 21 |
| • | SEPT | 29 11 5 | 29 4 1 | | SEPT. | 26 2 15 | 26 8 12 |
| | Oct | 28 23 49 | 28 14 45 | | 0 | (10 20 87 | 10 7 37 |
| | Nov. | 27 12 33 | 27 3 14 | | Ocr | 25 14 59 | 25 22 0 |
| | DEC | 27 1 17 | 26 17 27 | | Nov. | 24 8 48 | 24 10 89 |
| | 220 | | 20 11 21 | | DEC | 23 16 27 | 28 22 10 |
| | | | | | J. 10 | 25 10 21 | 20 22 10 |
| 343. | JAN | 25 14 2 | 25 9 12 | 340. | JAN | 22 5 11 | 22 8 88 |
| D. | FEB | 24 2 46 | 24 1 53 | G. | FEB | 20 17 55 | 20 18 4 |
| 26 1 21 | MAR | 25 15 30 | 25 18 41 | 25 18 48 | MAR. | 22 6 89 | 22 8 9 |
| | APRIL | 24 4 14 | 24 10 42 | | APRIL | 20 19 23 | 20 12 33 |
| | MAY . | 23 16 58 | 24 1 10 | | MAY. | 20 8 7 | 19 28 6 |
| | JUNE. | 22 5 42 | 22 13 47 | | June . | 18 20 51 | 18 11 82 |
| | JULY. | 21 18 26 | 22 0 44 | | JULY. | 18 9 85 | 18 2 6 |
| 11/ | Aug | 20 7 10 | 20 10 38 | | Aug. | 16 22 19 | 16 18 26 |
| | SEPT | 18 19 54 | 18 20 15 | | SEPT. | (15 11 8 | 15 11 45 |
| | Ocr | 18 8 38 | 18 6 13 | | 0 | 80 5 25 | 29 19 52 |
| | Nov | 16 21 22 | 16 16 51 | | Oct. | 14 28 47 | 15 4 59 |
| | DEC | 16 10 6 | 16 4 19 | | Nov. | 18 12 81 | 18 21 9 |
| | | | | | DEC | 18 1 15 | 18 11 87 |
| 342. | T | 14 22 50 | 14 10 05 | | - LO | 10 1 10 | 10 11 01 |
| 0. C. | JAN | 1 | 14 16 37 | 339. | JAN | 11 14 0 | 12 0 0 |
| | FEB | 13 11 34 | 13 5 52 | F. | FEB | 10 2 44 | 10 10 27 |
| 26 7 10 | MAR | 15 0 18 | 14 20 6 | 26 0 87 | MAR. | 11 15 28 | 11 19 17 |
| | A.PRIL O | 13 13 2 28 7 24 | 13 11 11 | | APRIL | 10 4 12 | 10 8 7 |
| | MAY. | 13 1 46 | 28 11 54 | | MAY . | 9 16 56 | 9 10 52 |
| | JUNE. | 11 14 30 | 13 2 40 | | JUNE . | 8 5 40 | 7 19 84 |
| | JUNE. | | 11 17 58 | | JULY. | 7 18 24 | 7 6 14 |
| | Aug | | 11 8 26 | | Aug | (678 | 5 19 81 |
| 11/ | SEPT. | 9 15 58 | 9 21 46 | | 0 | 21 1 22 | 21 2 40 |
| | Oct | | 8 10 0 | | SEPT | 4 19 52 | 4 11 81 |
| | OCT | 7 17 26 | 7 21 30 | | Oct | 4 8 86 | 4 5 84 |
| | | 22 11 48 | 22 2 32 | | | | |
| | Nor | 1 6 6 10 | 0 0 00 | 11 | 1 1100- | 2 21 201 | D U vr |
| | Nov Dec | 6 6 10 5 18 54 | 6 8 38 5 19 31 | | Nov | 2 21 20 | 8 0 26 2 18 87 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|---------|--|-----------------------------------|----------------------------|---------------|------------------------------------|-----------------------------|
| B.C. | | d. h. m. | d. h. m. | B.C. 335. | | d. h. m. | d. h. m. |
| 338. | | ſ | 1 10 53 | Α. | JAN | 27 2 43 | 27 2 54 |
| E. | JAN | 30 11 32 | 31 0 30 | March. $d. h. m.$ | FEB | 25 15 27 | 25 20 54 |
| March. | FEB | c | | 25 23 52 | MAR | 27 4 11 | 27 13 32 |
| 0 U | 0 | 14 5 54 | 14 1 4 | | APRIL | 25 16 55 | 26 3 57 |
| d. h. m. | | (1 0 17 | 1 11 26 | | MAY . | 25 5 39 | 25 15 53 |
| 26 6 25 | MAR | (30 13 1 | 30 20 8 | | 0 | (901 | 8 13 32 |
| | APRIL | 29 1 45 | 29 3 24 | | JUNE . | 28 18 28 | 24 1 42 |
| | MAY . | 28 14 29 | 28 10 13 | | JULY . | 23 7 7 | 23 10 26 |
| | JUNE . | 27 3 13 | 26 17 43 | | Aug | 21 19 51 | 21 18 34 |
| | July . | 26 15 57 | 26 2 57 | | SEPT | 20 8 35 | 20 3 27 |
| | 0 | (10 10 19 | 10 16 9 | | Oct | 19 21 19 | 19 13 32 |
| | Aug | 25 4 41 | 24 14 54 | | Nov | 18 10 3 | 18 1 10 |
| | SEPT | 23 17 25 | 23 5 54 | | 0 | 3 4 25 | 3 14 16 |
| | Oct | 23 6 9 | 22 23 40 | | DEC | 17 22 47 | 17 14 25 |
| | Nov | 21 18 53 | 21 19 1 | | | | |
| | DEC | 21 7 37 | 21 14 23 | 334. | JAN | 16 11 31 | 16 5 14 |
| 337. | JAN | 19 20 21 | 20 8 5 | G. | FEB | 15 0 15 | 14 21 13 |
| D.C. | 0 | 3 14 43 | 3 9 42 | 26 5 41 | MAR | 16 12 59 | 16 13 49 |
| | FEB. | 118 9 5 | 18 23 3 | | APRIL | 15 1 48 | 15 6 9 |
| 25 12 14 | MAR. | 18 21 49 | 19 10 56 | | MAY . | j 14 14 27 | 14 21 26 |
| 10 12 11 | APRIL | 17 10 33 | 17 20 7 | | 0 | 29 8 49 | 29 2 9 |
| | MAY. | 16 23 17 | 17 8 29 | | June . | 13 3 11 | 13 11 5 |
| | JUNE . | 15 12 1 | 15 10 9 | | JULY . | | 12 23 0 |
| | JULY . | (15 0 45 | 14 17 10 | | Aug. | | 11 9 84 |
| | 0 | 29 19 7 | 29 22 40 | | SEPT. | | 9 19 30 |
| | Aug | 18 18 29 | 13 1 39 | | Ocr. | 9 6 7 | 9 5 27 |
| | SEPT | 12 2 13 | 11 12 30 | | Nov. | 7 18 51 | 7 15 58 |
| 1 | Oct | 11 14 57 | 11 2 14 | | -0 | 22 18 18 | 22 16 85 |
| | Nov | 10 3 41 | 9 18 51 | | DEC. | 7 7 85 | 7 2 56 |
| | DEC | 9 16 25 | 9 13 32 | 333. | JAN. | . 5 20 20 | 5 14 41 |
| 336. | JAN | 8 5 10 | 8 8 54 | F.E. | FEB. | . 494 | 1 |
| В. | FEB | 6 17 54 | 7 3 16 | 25 11 30 | MAR. | | |
| 25 18 8 | MAR. | 8 6 38 | 8 19 22 | | APRII | | |
| | APRIL | 6 19 22 | 7 8 30 | | MAY | . | 1 |
| | MAY . | 686 | 6 18 49 | | 0 | (17 17 88 | 1 |
| | JUNE . | 4 20 50 | 5 3 5 | | JUNE | | 1 |
| | July . | | 4 10 18 | | JULY | $\int_{0}^{\infty} 1 = 0.44$ | 1 |
| | Aug. | 1 | 2 17 37 | | | (80 18 28 | |
| | SEPT. | $\begin{cases} 1 & 11 & 2 \\ 80 & 28 & 46 \end{cases}$ | | | AUG. Sept. | | |
| | Ост. | 30 12 30 | 30 12 12 | | Oct. | 27 8 40 | |
| 0. | Nov. | 29 1 14 | | | Nov. | 25 16 24 | |
| | 1 | (18 19 86 | | 1 | DEC. | 25 16 24 | |
| | DEC. | . 28 13 58 | | | JEC. | . 20 0 0 | |
| l | 1 2020. | 1120 10 00 | / 120 C 40 | η | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------------|--|
| B.C. 332. | | d. h. m. | d. h. m. | B.C. 329. | | d. h. m. | d. h. m. |
| D. | JAN | 23 17 53 | 23 15 56 | A.G. | JAN | 21 9 3 | 21 22 13 |
| March. | FEB | 22 6 37 | 22 2 27 | March. | FEB. | 19 21 47 | 20 10 22 |
| d. h. m. 25 17 18 | MAR. | 23 19 21 | 23 13 23 | d. h. m. 25 10 45 | MAR. | 20 10 31 | 20 10 22 |
| 20 11 10 | APRIL | 22 8 5 | 22 1 19 | 20 10 40 | | | |
| 1 | | 21 20 49 | | | APRIL | 18 23 15 | 19 3 42 |
| | MAY. | | 21 14 39 | | MAY . | 18 11 59 | 18 10 32 |
| 1 | JUNE . | 20 9 33 | 20 5 25 |). | June. | 17 0 43 | 16 17 29 |
| l | JULY. | 19 22 17 | 19 21 10 | | JULY. | 16 13 27 | 16 1 45 |
| İ | Aug | 18 11 1 | 18 13 11 | | Aug | 15 2 11 | 14 12 18 |
| | SEPT | 16 23 45 | 17 4 46 | | SEPT | 13 14 55 | 13 1 50 |
| | Oct | 16 12 29 | 16 19 24 | | Ост | 13 3 39 | 12 18 23 |
| 1 | Nov | 15 1 13 | 15 8 50 | | Nov | 11 16 23 | 11 13 12 |
| | DEC | 14 13 57 | 14 20 59 | | DEC | 11 5 7 | 11 8 49 |
| | | | | | | | |
| 331. | JAN | 13 2 41 | 13 7 52 | 328. | JAN | (9 17 51 | 10 3 31 |
| C. | FEB | 11 15 25 | 11 17 37 | F. | 0 | 24 12 18 | 24 8 9 |
| 25 23 7 | MAR | (13 4 9 | 13 2 37 | | FEB | 8 6 35 | 8 19 53 |
| | 0 | 27 22 31 | 28 10 10 | 25 16 34 | MAR. | 9 19 19 | 10 9 12 |
| | APRIL | 11 16 53 | 11 11 30 | | APRIL | 8 8 3 | 8 19 85 |
| | MAY . | 11 5 37 | 10 21 10 | | MAY . | 7 20 47 | 8 3 42 |
| | JUNE . | 9 18 21 | 9 8 28 | | June . | 6 9 31 | 6 10 84 |
| | JULY. | 9 7 5 | 8 21 55 | | JULY. | (5 22 15 | |
| | Aug | 7 19 49 | 7 18 31 | | O . | J | 5 17 19 |
| | SEPT | (6 8 33 | 6 6 39 | | | 20 16 37 | 20 18 31 |
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| | Oct. | 5 21 17 | 6 0 18 | | SEPT | 2 23 43 | 2 10 42 |
| } | Nov. | 4 10 1 | | | Oct | 2 12 27 | $ \begin{cases} 1 & 28 & 2 \\ 31 & 14 & 18 \end{cases} $ |
| | DEC. | 3 22 45 | 4 17 22 | | Nov | § 1 1 11 | |
| | DEC | 0 22 40 | 4 8 54 | | _ | (30 18 55 | 30 8 3 |
| 000 | | | | | DEC | 30 2 3 9 | 80 8 11 |
| 330. B. | JAN | 2 11 30 | 2 22 54 | | | | |
| | FEB | 1 0 14 | 1 9 43 | | 0 | (13 21 2 | 13 23 26 |
| 26 4 56 | MAR | $\int 2 12 58$ | 2.19 9 | 327. | JAN | 28 15 24 | 28 22 7 |
| | 0 | 17 7 20 | 17 11 23 | E. | FEB | 27 4 8 | 27 15 22 |
|] | APRIL | § 1 1 42 | 1 3 11 | 25 22 23 | MAR | 28 16 52 | 29 5 55 |
| | | 30 14 26 | 30 10 41 | | APRIL | 27 5 36 | 27 17 85 |
| | MAY. | 30 3 10 | 29 18 39 | | MAY . | 26 18 20 | 27 2 47 |
| | JUNE : | 28 15 54 | 28 4 7 | | JUNE . | 25 7 4 | 25 10 28 |
| | JULY. | 28 4 38 | 27 16 4 | | 0 | (10 1 26 | 9 19 0 |
| | Aug | 26 17 22 | 26 6 48 | | JULY . | 24 19 48 | 24 17 45 |
| , | 0 | 510 11 44 | 10 11 26 | | Aug | 23 8 32 | 28 1 39 |
| | SEPT | 25 6 6 | 25 0 5 | | SEPT | 21 21 16 | 21 11 0 |
| | Oct | 24 18 50 | 24 18 54 | | Oct. | 21 10 0 | 20 22 25 |
| | Nov | 23 7 34 | 23 13 45 | | Nov. | 19 22 44 | 19 12 11 |
| | DEC | 22 20 18 | 28 7 12 | | DEC. | 19 11 28 | 19 4 9 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|--|--|---|--|--|---|---|
| B.C. 326. D. March. d. h. m. 26 4 11 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | d. h. m. { 3 5 50 18 0 12 16 12 56 18 1 40 16 14 24 16 3 8 {14 15 52 29 10 14 14 4 36 12 17 20 11 6 4 10 18 48 9 7 32 8 20 16 | d. h. m. 3 14 58 17 21 40 16 15 40 18 8 57 17 0 27 16 13 38 15 0 33 28 22 43 14 9 48 12 18 18 11 3 1 10 12 37 8 23 32 8 11 55 | B.C. 323. G. March. d. h. m. 25 21 38 | JAN FEB MAR APRIL O MAY JUNE JULY . AUG SEPT OCT O NOV DEC | d. h. m. 14 15 22 13 4 6 14 16 50 (18 5 34 (27 23 56 12 18 18 11 7 2 10 19 46 9 8 30 7 21 14 (7 9 58 (22 4 20 5 22 42 5 11 26 | d. h. m. 14 15 2 13 1 19 14 11 41 12 22 46 28 10 57 12 11 9 11 1 8 10 16 29 9 8 37 8 0 47 7 16 15 21 15 57 6 6 32 5 19 29 |
| 325. c.r. 25 10 0 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 7 1 49 5 17 0 6 9 6 5 1 26 4 17 15 3 7 48 2 20 43 1 8 8 30 18 31 29 4 41 28 15 1 27 1 47 26 13 6 | 322. F. 26 3 27 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | 4 0 11 2 12 55 4 1 39 2 14 28 { 2 8 7 { 31 15 51 30 4 35 29 17 19 28 6 3 26 18 47 { 11 13 9 { 26 7 31 24 20 15 24 8 59 | 4 6 59 2 17 9 4 2 15 2 10 51 1 19 48 31 6 1 29 18 18 29 8 58 28 1 31 26 19 16 11 4 26 26 13 0 25 5 85 24 20 18 |
| 324. 2. 25 15 49 | Jan Feb Mar April O May . June . July . Aug Sept Oct O Nov Dec | 25 6 34 23 19 18 25 8 2 28 20 46 \$ 15 8 (28 9 30 21 22 14 21 10 58 19 23 42 18 12 26 18 1 10 { 1 19 32 {16 13 54 16 2 38 | 25 1 0 23 13 40 25 3 17 23 17 52 8 19 25 23 9 8 22 0 29 21 15 18 20 5 10 18 18 2 18 6 5 1 10 32 16 17 31 16 4 30 | 321. E.D. 25 9 16 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 22 21 44 21 10 28 21 28 12 20 11 56 20 0 40 18 13 24 18 2 8 {16 14 52 31 9 14 15 3 36 14 16 20 18 5 4 12 17 48 | 28 8 36 21 18 47 22 3 15 20 10 45 19 18 12 18 2 42 17 18 19 16 2 41 81 10 52 14 18 54 14 18 14 18 8 25 18 2 50 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--------------------------------------|--|--|---|---|--|---|--|
| B.C. 320. c. March. d. h. m. 25 15 4 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | d. h. m. 11 6 32 { 9 19 16 24 13 38 11 8 0 9 20 44 9 9 28 7 22 12 7 10 56 { 5 23 40 20 18 2 4 12 24 4 1 8 2 13 52 { 2 2 36 81 15 20 | d. h. m. 11 19 10 10 8 41 24 8 41 11 19 24 10 3 50 9 10 53 7 17 36 7 1 5 5 10 25 20 23 42 3 22 30 3 13 40 2 7 38 2 3 0 31 22 20 | B.C. 317. G.F. March. d. h. m. 25 8 31 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEFT OCT NOV O DEC | d. h. m. 8 21 42 7 10 26 7 23 10 6 11 54 6 0 38 4 13 22 19 7 44 4 2 6 2 14 50 1 3 34 30 16 18 30 5 2 28 17 46 {18 12 8 28 6 30 | d. h. m. 8 16 47 7 10 27 8 4 1 6 20 24 6 10 45 4 22 49 18 20 30 4 8 57 2 17 55 1 2 40 30 11 57 29 22 18 28 9 57 13 22 38 27 22 57 |
| 319. B. 25 20 53 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | 30 4 5 {13 22 27 28 16 49 30 5 38 28 18 17 28 7 1 26 19 45 26 8 29 {10 2 51 24 21 13 23 9 57 22 22 41 21 11 25 21 0 9 | 30 15 59 13 17 53 13 17 53 14 6 47 15 18 80 29 3 35 28 10 55 26 17 39 26 0 51 10 5 40 24 9 33 22 20 35 22 10 25 21 3 1 20 21 31 | 316. E. 25 14 20 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O DEC | 26 19 15 25 7 59 26 20 48 25 9 27 24 22 11 { 8 16 38 23 10 55 22 23 39 21 12 23 20 1 7 19 18 51 18 2 35 { 2 20 57 17 15 19 | 26 18 17 25 4 42 26 20 45 25 12 47 25 4 0 8 9 29 28 17 51 28 6 12 21 17 20 20 3 48 19 14 11 18 0 49 3 0 38 17 11 49 |
| 318. A. 26 2 42 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 19 14 22 18 8 6 17 15 50 16 4 34 15 17 18 14 6 2 12 18 46 12 7 30 | 10 9 18 10 0 7 | 315. D. 25 20 9 | Jan Feb Mar April May . O June . July . Aug Sept Oot Nov Dec. | 10 21 12 9 9 56 8 22 40 7 11 24 | 12 20 4 12 11 20 11 1 58 9 15 38 9 4 20 7 16 16 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|---|--|---|---|--|--|---|---|
| B.C. 314. c. March. d. h. m. 26 1 57 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 5 12 52 4 1 36 5 14 20 4 3 4 3 15 48 2 4 32 { 1 17 16 81 6 0 29 18 44 28 7 28 27 20 12 26 8 56 25 21 40 | d. h. m. 5 14 14 4 0 27 5 10 26 8 20 48 8 8 14 1 21 15 1 11 56 81 3 58 29 20 22 28 12 38 28 3 45 26 17 34 26 5 49 | B.C. 311. F. March. d. h. m. 25 19 24 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEFT OCT NOV | d. h. m. 2 4 1 31 16 46 2 5 30 31 18 14 30 6 58 29 19 42 28 8 26 27 21 10 26 9 54 24 22 38 24 11 22 23 0 6 | d. h. m. 2 15 24 1 6 22 2 18 22 { 1 8 44 { 30 11 15 29 17 57 28 0 54 27 9 13 25 19 55 24 9 36 24 2 17 22 21 10 |
| 313. B.A. 25 7 46 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV | 24 10 25 22 28 9 28 11 58 { 7 6 15 22 0 87 21 18 21 20 2 5 19 14 49 18 8 83 16 16 17 { 1 10 89 16 5 1 14 17 45 14 6 29 | 24 16 38 28 1 57 28 10 30 7 17 8 21 18 56 21 4 18 19 15 17 19 4 42 17 20 29 16 14 0 1 3 35 16 8 8 15 1 38 14 17 27 | 310. E. 26 1 13 | DEC JAN O FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 22 12 50 21 1 85 4 19 57 19 14 19 21 3 8 19 15 47 19 4 81 17 17 15 17 5 59 15 18 48 14 7 27 18 20 11 12 8 55 11 21 39 | 22 16 45 21 11 23 4 16 34 20 3 37 21 16 47 20 3 2 19 11 5 17 18 2 17 0 57 15 8 54 18 18 47 18 7 16 11 22 38 11 16 9 |
| 312. G. 25 13 85 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov DEC | 12 19 18 11 7 57 {12 20 41 27 15 8 11 9 25 10 22 9 9 10 58 8 28 87 7 12 21 { 6 1 5 20 19 27 5 18 49 4 2 88 8 15 17 | 18 6 57 11 18 7 18 8 12 27 18 15 11 10 54 10 18 6 9 1 52 8 11 15 6 23 18 5 14 7 20 19 47 5 7 40 4 2 46 8 21 51 | 309. D.C. 25 7 2 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT Oct Nov DEC | 10 10 28 25 4 45 8 28 7 9 11 51 8 0 85 7 18 19 6 2 8 5 14 47 20 9 9 4 8 31 2 16 15 2 4 59 81 17 48 80 6 27 29 19 11 | 4 1 88 2 9 47 1 19 26 |

| SOS. Compared Society Societ | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. () Full Ecl.) |
|--|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| B. | | | d. h. m. | d. h. m. | 305. | | d. h. m. | d. h. m. |
| March. Jan. 28 7 56 28 5 28 d. h. m. 26 10 50 28 28 27 7 14 Mar. 26 10 52 26 20 28 June 24 23 36 25 7 38 O 9 17 58 9 5 42 July 24 23 36 25 7 38 June 24 24 22 24 17 17 Aug. 28 1 4 28 2 17 Sept. 21 13 48 21 11 25 Oct. 21 2 32 20 21 21 Nov. 19 15 16 19 8 23 Dec. 19 4 0 18 20 38 Dec. 15 19 10 16 4 19 15 38 Dec. 15 19 41 15 28 46 June 14 2 20 39 18 18 25 14 14 26 June 15 20 38 June 15 20 38 June 15 20 38 June 15 20 38 June 15 20 38 June 15 20 38 June 10 23 37 11 2 40 Oct. 10 11 21 10 13 17 Nov. 9 0 5 8 23 55 Dec. 8 12 49 8 10 46 Oct. 10 11 21 10 13 17 Nov. 9 0 5 8 23 55 Dec. 8 12 49 8 10 46 Oct. 10 11 21 10 13 17 Nov. 10 12 19 10 1 April April April 5 15 45 5 10 21 Mar 5 15 15 5 21 Dec. 5 3 59 5 14 April April 16 22 51 20 2 51 June 1 2 2 52 7 2 17 April April 16 23 5 7 3 7 1 Aug. 5 15 15 5 21 Dec. 5 3 59 5 14 5 20 2 17 April April 12 20 39 30 2 10 April 12 13 31 12 40 Oct. 29 20 9 30 2 10 Oct. 29 20 9 30 2 10 Oct. 29 25 20 25 31 218 37 June 29 21 7 29 9 55 22 20 21 2 Oct. 29 20 9 30 2 10 Oct. 29 25 25 20 25 1 June 29 21 7 29 9 55 22 20 21 2 Oct. 29 20 9 30 2 10 Oct. 29 25 25 29 24 42 2 Oct. 20 25 25 20 25 | | 0 | f 13 13 33 | 13 23 38 | | JAN | 25 23 6 | 25 23 42 |
| A. h. m. Feb. 26 20 40 26 22 55 25 6 17 April 26 22 8 27 7 14 May 26 10 52 26 20 28 June 24 23 36 25 7 88 O 42 12 20 24 17 17 Aug. 23 13 18 23 5 55 April 24 12 20 24 17 17 Aug. 23 13 18 23 15 18 Aug. 24 12 20 24 17 17 Aug. 23 13 18 23 15 18 Aug. 21 13 48 21 11 25 Oct. 21 2 32 20 21 21 Nov. 19 15 16 19 8 23 Dec. 19 4 0 18 20 38 307. Jan. 17 16 45 17 10 6 Feb. 16 5 29 16 0 42 Dec. 19 4 0 18 20 38 307. Jan. 17 16 45 17 10 6 June 14 8 25 14 14 26 June 14 8 25 14 14 26 June 12 20 39 18 1 13 Aug. 19 14 8 42 June 12 20 39 18 1 13 Aug. 10 22 37 11 2 40 Oct. 10 11 21 10 13 17 Nov. 9 0 5 8 12 49 8 10 46 Oct. 7 2 13 7 2 5 I 2 12 0 38 June 1 2 25 12 Aug. 19 22 51 20 25 July 10 12 19 10 1 Aug. 5 15 15 5 21 June 1 2 20 39 18 13 Aug. 1 2 20 39 18 13 Aug. 1 2 20 39 18 13 Aug. 1 2 20 39 18 13 Aug. 1 2 20 39 18 13 Aug. 1 2 20 39 18 13 Aug. 1 2 20 39 18 13 Aug. 1 2 20 39 Aug. 1 2 20 39 Aug. 1 2 20 39 Aug. 1 2 20 39 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 1 2 20 30 Aug. 2 20 21 7 Aug. 2 20 20 9 30 2 10 Aug. 2 20 21 7 2 20 20 9 30 2 10 Aug. 2 20 21 7 2 20 20 9 30 2 10 Aug. 2 20 21 7 2 20 20 20 30 2 10 Aug. 2 20 21 7 2 20 20 20 20 20 20 20 20 20 20 20 20 2 | | JAN | 28 7 56 | 28 5 23 | | FEB | 24 11 50 | 24 9 31 |
| APRIL | d. h. m. | FEB | 26 20 40 | 26 22 55 | | MAR | 25 0 34 | 24 19 20 |
| MAY . 26 10 52 26 20 28 June . 24 23 36 25 7 38 O | 25 12 50 | MAR | 28 9 24 | 28 15 52 | | APRIL | 23 13 18 | 23 5 55 |
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| O | | MAY . | 26 10 52 | 26 20 28 | | MAY . | 23 2 2 | 22 17 53 |
| JULY . \(\begin{array}{c ccccccccccccccccccccccccccccccccccc | | June . | 24 23 36 | 25 7 38 | | June . | 21 14 46 | 21 7 40 |
| Aug. 28 1 4 23 2 17 Sept. 21 13 48 21 11 25 Oct. 21 2 32 20 21 21 Nov. 19 15 16 19 8 23 Dec. 19 4 0 18 20 38 Dec. 17 17 42 16 6 26 16 15 5 16 6 57 16 8 9 Mar. 17 18 18 17 16 18 25 12 6 Mar. 12 20 99 18 18 18 18 18 18 18 | | 0 | (9 17 58 | 9 5 42 | | JULY . | 21 3 30 | 20 23 7 |
| Sept. 21 13 48 21 11 25 Oct. 21 2 32 20 21 21 Nov. 19 15 16 19 8 23 Dec. 19 4 0 18 20 38 307. Jan. 17 16 45 17 10 6 Feb. 16 5 29 16 0 42 25 18 39 Mar. 17 18 13 17 16 13 April 16 657 16 8 9 May 15 19 41 15 23 46 June 14 8 25 14 14 26 June 14 8 25 14 14 26 Juny 13 21 9 14 3 42 Aug. 12 9 53 Dec. 8 12 49 8 10 46 308. 309. Jan. 7 1 33 6 21 51 Dec. 10 11 21 10 13 17 Nov. 9 0 5 8 23 55 Dec. 8 12 49 8 10 46 309. 3008. Jan. 7 1 33 6 21 51 June 1 51 54 5 510 21 June 1 51 54 5 510 21 June 1 6 21 54 5 510 21 June 1 7 18 18 17 18 31 24 0 Oct. 1 19 19 25 51 June 2 57 3 7 1 Aug. 1 18 41 1 22 13 June 3 17 18 3 15 38 July 3 5 57 3 7 1 Aug. 1 18 41 1 22 13 Aug. 1 18 41 1 22 13 Sept. 29 20 9 30 2 10 Oct. 29 8 53 29 14 42 Oct. 29 8 53 29 14 42 Oct. 29 8 53 29 14 42 Oct. 29 8 53 29 14 42 Oct. 29 8 53 29 14 42 Oct. 29 8 53 29 14 42 Oct. 26 0 3 25 21 | | JULY. | 24 12 20 | 24 17 17 | | Aug | 19 16 14 | 19 15 38 |
| OCT 21 2 32 20 21 21 Nov 19 15 16 19 8 23 DEC 19 4 0 18 20 38 307. Jan 17 16 45 17 10 6 FED 16 5 29 16 0 42 25 18 39 Mar 17 18 13 17 16 13 APRIL 16 6 57 16 8 9 May . 15 19 41 15 23 46 JULY . 18 21 9 14 3 42 Aug 12 9 58 12 15 39 Sept 10 22 37 11 2 40 OCT 10 11 21 10 13 17 Nov 9 0 5 DEC 10 11 21 10 13 17 Nov 9 0 5 DEC 8 12 49 8 10 46 308. Jan 7 1 83 6 21 51 G. April 5 15 45 5 10 21 May . \$\begin{array}{c c c c c c c c c c c c c c c c c c c | | Aug | 23 1 4 | 23 2 17 | | SEPT | 18 4 58 | 18 8 20 |
| Nov. 19 15 16 19 8 23 Dec. 19 4 0 18 20 38 307. Jan. 17 16 45 17 10 6 Feb. 16 5 29 16 0 42 25 18 39 Mar. 17 18 13 17 16 13 April 16 6 57 16 8 9 May 15 19 41 15 23 46 June 14 8 25 14 14 26 Juny 18 21 9 14 3 42 Aug. 12 9 58 12 15 39 Sept. 10 22 37 11 2 40 Oct. 10 11 21 10 13 17 Nov. 9 0 5 8 23 55 Dec. 8 12 49 8 10 46 308. Jan. 7 1 33 6 21 51 G. April 5 15 45 5 10 21 May 1 5 15 45 5 10 21 May 1 5 15 45 5 10 21 June 1 3 17 18 3 15 33 July 1 3 3 15 12 18 37 Nov. 29 9 5 12 12 31 June 2 3 16 43 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | | SEPT | 21 13 48 | 21 11 25 | | Oct | 17 17 42 | 18 0 23 |
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| 307. | | Nov | 19 15 16 | 19 8 23 | | Nov | 16 6 26 | 16 15 8 |
| A. Feb. 16 5 29 16 0 42 25 12 6 MAR. 14 9 23 14 10 12 16 65 7 16 8 9 MAY. 15 19 41 15 23 46 JULY. 18 21 9 14 3 42 AUG. 12 9 53 12 15 39 SEPT. 10 22 37 11 2 40 OCT. 10 11 21 10 13 17 Nov. 9 0 5 8 23 55 DEC. 8 12 49 8 10 46 G. Feb. 5 14 17 5 9 17 26 0 28 MAR. 7 3 1 6 21 20 APRIL 5 15 45 5 10 21 JULY. 3 17 18 3 15 33 JULY. 3 5 57 3 7 1 AUG. 12 9 20 9 30 2 10 OCT. 29 8 58 29 14 42 O SEPT. 29 20 9 30 2 10 OCT. 29 8 58 29 14 42 OCT. 26 0 3 25 21 | | DEC | 19 4 0 | 18 20 38 | | DEC | 15 19 10 | 16 4 17 |
| A. Feb. 16 5 29 16 0 42 25 12 6 MAR. 14 9 23 14 10 12 16 65 7 16 8 9 MAY. 15 19 41 15 23 46 JULY. 18 21 9 14 3 42 AUG. 12 9 53 12 15 39 SEPT. 10 22 37 11 2 40 OCT. 10 11 21 10 13 17 Nov. 9 0 5 8 23 55 DEC. 8 12 49 8 10 46 G. Feb. 5 14 17 5 9 17 26 0 28 MAR. 7 3 1 6 21 20 APRIL 5 15 45 5 10 21 JULY. 3 17 18 3 15 33 JULY. 3 5 57 3 7 1 AUG. 12 9 20 9 30 2 10 OCT. 29 8 58 29 14 42 O SEPT. 29 20 9 30 2 10 OCT. 29 8 58 29 14 42 OCT. 26 0 3 25 21 | 307. | JAN | 17 16 45 | 17 10 6 | 304 | TAN | 14 7 55 | 14 15 44 |
| 25 18 39 Mar 17 18 13 17 16 13 | | | l . | 1 | | | | |
| APRIL 16 6 57 16 8 9 MAY . 15 19 41 15 28 46 JUNE . 14 8 25 14 14 26 JULY . 18 21 9 14 3 42 AUG 12 9 58 12 15 39 SEPT 10 22 87 11 2 40 OCT 10 11 21 10 13 17 Nov 9 0 5 8 23 55 DEC 8 12 49 8 10 46 306. JAN 7 1 33 6 21 51 G. Feb 5 14 17 5 9 17 26 0 28 MAR 7 3 1 6 21 20 APRIL 15 15 45 5 10 21 MAY . { 5 4 29 5 0 30 C 19 22 51 20 2 51 JUNE . 3 17 13 3 15 33 JULY . 3 5 57 3 7 1 AUG { 1 18 41 1 22 13 AUG { 1 19 39 1 18 18 18 11 4 2 5 13 49 1 18 18 18 11 4 2 5 13 49 1 18 18 18 11 4 2 5 13 49 1 18 18 18 11 4 2 5 13 49 1 18 18 18 11 4 2 5 13 40 1 18 18 18 11 4 2 5 13 40 1 18 18 18 11 1 18 18 18 18 18 18 18 18 | 25 18 39 | | | | 25 12 6 | | 1 | |
| MAY . 15 19 41 15 23 46 JUNE . 14 8 25 14 14 26 JULY . 13 21 9 14 3 42 AUG 12 9 53 12 15 39 SEPT 10 22 37 11 2 40 OCT 10 11 21 10 13 17 Nov 9 0 5 8 23 55 DEC 8 12 49 8 10 46 G. FEB 5 14 17 5 9 17 26 0 28 MAR 7 3 3 1 6 21 20 APRIL 5 15 45 5 10 21 MAY . \$\begin{array}{c ccccccccccccccccccccccccccccccccccc | 20 20 00 | 1 | 1 | | 20 12 0 | 1 | | |
| JUNE . 14 8 25 14 14 26 JULY . 13 21 9 14 8 42 AUG 12 9 53 12 15 39 SEPT 10 22 37 11 2 40 OCT 10 11 21 10 13 17 Nov 9 0 5 8 23 55 DEC 8 12 49 8 10 46 G. Feb 5 14 17 5 9 17 26 0 28 MAR 7 3 3 1 6 21 20 APRIL 5 15 45 5 10 21 MAY . \begin{cases} | | 1 | | 1 | | | 12 | 1 |
| JULY . 18 21 9 14 8 42 Aug 12 9 58 12 15 39 Sept 10 22 37 11 2 40 Oct 10 11 21 10 13 17 Nov 9 0 5 8 23 55 Dec 8 12 49 8 10 46 G. Feb 5 14 17 5 9 17 26 0 28 Mar 7 8 1 6 21 20 April 5 15 45 5 10 21 May . { 5 4 29 5 0 30 0 19 22 51 20 2 51 1 June . 3 17 13 3 15 33 July . 3 5 57 3 7 1 Aug { 118 41 1 22 13 31 7 25 31 12 40 | | 1 | 1 | | | 1 | | 1 |
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| OCT 10 11 21 10 13 17 Nov 9 0 5 8 23 55 DEC 8 12 49 8 10 46 306. JAN 7 1 33 6 21 51 DEC 5 3 59 5 14 26 0 28 MAR 7 3 1 6 21 20 APRIL 5 15 45 5 10 21 MAY . 5 4 29 5 0 30 19 22 51 JUNE . 3 17 13 3 15 33 JULY . 3 5 57 3 7 1 AUG 1 18 41 1 22 13 AUG 29 20 9 30 2 10 OCT 29 8 53 29 14 42 O 13 3 15 12 18 37 OCT 10 11 21 10 13 17 Nov 10 13 17 Nov 10 13 17 13 15 12 18 37 SEPT 7 13 47 7 8 4 4 7 7 8 4 4 7 7 8 4 4 10 Nov 5 15 15 5 21 DEC 5 3 59 5 14 Nov 5 15 15 5 21 DEC 5 3 59 5 14 DEC 5 3 59 5 14 Nov 5 15 15 5 21 DEC 5 3 59 5 14 Nov 5 15 15 5 21 DEC 5 3 59 5 14 DEC 2 5 27 2 17 MAR 3 16 43 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | | | | | | | 1 | |
| Nov. 9 0 5 8 23 55 DEC. 8 12 49 8 10 46 306. Jan. 7 1 33 6 21 51 G. Feb. 5 14 17 5 9 17 26 0 28 Mar. 7 3 1 6 21 20 April 5 15 45 5 10 21 May 6 19 22 51 20 2 51 June 7 3 17 13 3 15 33 July 8 3 5 57 3 7 1 Aug. 1 18 41 1 22 13 Alug. 2 13 81 7 25 81 12 40 Sept. 2 29 20 9 30 2 10 Oct. 2 29 8 53 29 14 42 O (13 3 15 12 18 37) OCT {7 2 31 7 2 5 31 7 2 5 } OCT {7 2 31 7 2 5 31 7 2 5 5 } OCT {7 2 31 7 2 5 31 13 303. Nov 5 15 15 5 21 DEC 5 3 59 5 14 Dec 5 3 59 5 14 Nov 5 15 15 5 21 Dec 5 3 59 5 14 Nov 5 15 15 5 21 Dec 5 3 59 5 14 Feb 2 5 27 2 17 Mar 3 16 43 4 4 4 4 Feb 2 5 27 2 17 May . {1 19 39 1 18 1} April 2 6 55 2 11 June . 3 17 13 3 15 33 July . 3 5 57 3 7 1 Aug 29 21 7 29 9 5 July . 29 9 51 28 20 8 Aug 27 22 35 27 9 5 Sept 26 11 19 26 2 2 Oct 26 0 3 25 21 | | | 1 | | | | 1 | |
| DEC 8 12 49 8 10 46 306. JAN 7 1 83 6 21 51 G. FEB 5 14 17 5 9 17 26 0 28 MAR 7 3 1 6 21 20 APRIL 5 15 45 5 10 21 MAY . 5 4 29 5 0 30 C. 25 17 55 MAR 3 16 43 4 4 4 DEC 5 3 59 5 14 Sept 29 20 9 30 2 10 OCT 29 8 53 29 14 42 O (13 3 15 12 18 37) O (21 20 53 21 13 Nov 5 15 15 5 21 DEC 5 3 59 5 14 | | | | | | 0 | | 1 |
| 308. Jan. 7 1 83 6 21 51 Dec. 5 3 59 5 14 26 0 28 Mar. 7 3 1 6 21 20 April 5 15 45 5 10 21 May . 5 4 29 5 0 30 19 22 51 June . 3 17 13 3 15 33 July . 3 5 57 3 7 1 Aug. 1 18 41 1 22 13 April 5 18 41 1 22 13 April 6 29 20 9 30 2 10 Oct. 29 8 53 29 14 42 O 13 3 15 12 18 37 Nov 5 15 15 5 21 Dec 5 3 59 5 14 Nov 5 15 15 15 5 21 Dec 5 3 59 5 14 Dec 5 3 59 5 14 Nov 5 15 15 15 5 21 Dec 5 3 59 5 14 Nov 5 15 15 15 5 21 Dec 5 3 59 5 14 Nov 5 15 15 15 5 21 Dec 5 3 59 5 14 Nov 5 15 15 15 5 21 Dec 5 3 59 5 14 Nov 5 15 15 15 5 21 Dec 5 3 59 5 14 Feb 2 5 27 2 17 Mar 3 16 43 4 4 4 4 2 April 2 6 55 2 11 May . 1 19 39 1 18 1 June . 29 21 7 29 9 5 July . 29 9 51 28 20 8 Aug 27 22 35 27 9 5 Sept 26 11 19 26 2 2 Oct 26 0 3 25 21 | | _ | | 1 | | | 13 | |
| 308. G. FEB 5 14 17 5 9 17 26 0 28 MAR 7 3 1 6 21 20 APRIL 5 15 45 5 10 21 MAY . 6 4 29 5 0 30 19 22 51 20 2 51 JUNE . 3 17 13 3 15 33 JULY . 3 5 57 3 7 1 AUG. 13 15 12 18 37 O (13 3 15 12 18 37 O (13 3 15 12 18 37 DEC 5 3 59 5 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 DEC 6 55 14 | | 220 | 0 12 10 | 3 20 20 | | | 1 | |
| G. Feb 5 14 17 5 9 17 303. Jan 3 16 43 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | 000 | T | 7 100 | 0.01.71 | | _ | 1 | |
| 26 0 28 MAR 7 3 1 6 21 20 303. | | | 1 | } | | | 5 5 50 | |
| APRIL 5 15 45 5 10 21 C. FEB. 2 5 27 2 17 MAR. 3 18 11 4 2 5 17 55 MAR. 3 18 11 4 2 5 17 55 MAR. 3 18 11 4 2 5 17 55 MAR. 3 18 11 4 2 5 17 55 MAR. 4 17 18 3 15 33 JULY. 3 5 57 3 7 1 1 18 41 1 22 13 18 17 25 31 12 40 SEPT. 29 20 9 30 2 10 Oct. 29 8 53 29 14 42 O (13 3 15 12 18 37) Oct. 26 0 3 25 21 | | 1 | | | 303 | T | 2 10 40 | 1 4 46 |
| MAY . { 5 4 29 5 0 30 25 17 55 MAR 8 18 11 4 2 5 | 20 0 28 | | 1 | | | | | |
| O \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | | | 1 | | 25 17 55 | / | | 1 |
| June. 3 17 13 3 15 33 July. 3 5 57 3 7 1 Aug. {1 18 41 1 22 13 31 12 40} Sept. 29 20 9 30 2 10 Oct. 29 8 53 29 14 42 O (13 3 15 12 18 37) MAY. {1 19 39 1 18 1 21 21 21 21 21 21 21 21 21 21 21 21 2 | | 1 | 13 | 1 | 20 1. 00 | | | 1 |
| July . 3 5 57 3 7 1 MAY . (31 8 23 81 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 8 1 1 8 8 2 8 1 1 1 8 1 8 | | | 1, | 1 | | APRIL | | 1 |
| Aug. \begin{pmatrix} 1 & 18 & 41 & 1 & 22 & 13 \\ 81 & 7 & 25 & 81 & 12 & 40 \\ Sept. & 29 & 20 & 9 & 30 & 2 & 10 \\ Oct. & 29 & 8 & 58 & 29 & 14 & 42 \\ \circ & \left(13 & 3 & 15 & 12 & 18 & 37 \end{pmatrix} \begin{pmatrix} June . & 29 & 21 & 7 & 29 & 9 & 51 \\ July . & 29 & 9 & 51 & 28 & 20 & 8 \\ Aug & 27 & 22 & 35 & 27 & 9 & 51 \\ Sept & 26 & 11 & 19 & 26 & 2 & 22 \\ Oct & 26 & 0 & 3 & 25 & 21 \end{pmatrix} | | 1 _ | 1 | 1 | | MAY . | 12 | |
| Aug. (31 7 25 31 12 40 July 29 9 51 28 20 8 29 20 9 30 2 10 Aug. 27 22 35 27 9 5 | | aori. | | 1 | | Trres | 1 | |
| Sept. 29 20 9 30 2 10 Aug. 27 22 35 27 9 5 Oct. 29 8 58 29 14 42 Sept. 26 11 19 26 2 2 O (13 3 15 12 18 37 Oct. 26 0 3 25 21 | | Aυσ | 1) | 1 | | l _ | | 28 20 30 |
| Oct 29 8 53 29 14 42 SEPT 26 11 19 26 2 2 (13 3 15 12 18 37 Oct 26 0 3 25 21 | | SEPT | | | 1 | | i | 1 |
| OCT. 26 0 3 25 21 | | 1 _ | 1 | | 1 | | | 1 |
| | | | | | li | - | | 1 |
| Nov. | - | Nov. | 27 21 37 | | ļļ | | 1 | 24 16 24 |
| | | | 1 . | 1 | | | 1 | 24 10 58 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|--|--|--|--|--|--|---|---|
| B.C. 302. B. March. d. h. m. 25 23 43 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEFT OCT NOV | d. h. m. 22 14 16 21 3 0 7 21 22 22 15 44 21 4 28 20 17 12 19 5 56 18 18 40 17 7 24 { 1 1 46 {15 20 8 15 8 52 13 21 36 13 10 20 | d. h. m. 23 3 18 21 16 43 7 16 11 23 3 18 21 11 27 20 18 22 19 1 3 18 8 35 16 18 4 1 7 24 15 6 17 14 21 35 13 15 32 13 10 57 | B.C. 299. E. March. d. h. m. 25 17 10 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEFT OCT NOV | d. h. m. { 4 11 3 {19 5 26 17 18 10 19 6 54 17 19 38 17 8 22 {15 21 6 {30 15 28 15 9 50 13 22 34 12 11 18 12 0 2 10 12 46 {10 1 30 {24 19 52 | d. h. m. 4 22 2 19 0 43 17 17 51 19 11 1 18 3 9 17 17 30 16 5 46 30 3 34 15 16 16 14 1 43 12 10 55 11 20 37 10 7 10 9 18 46 25 6 6 |
| 301. A.G. | JAN Feb | 11 23 5 | 12 6 13 10 23 41 | 298. D. | Jan Feb | 8 14 14 7 2 58 | 8 7 27 6 21 13 |
| 25 5 32 | MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV | 25 6 11 11 0 38 9 18 17 9 2 1 7 14 45 7 3 29 (5 16 18 20 10 35 4 4 57 3 17 41 2 6 25 (1 19 9 (31 7 58 | 25 1 59 11 14 20 10 1 57 9 10 58 7 18 21 7 1 12 5 8 38 20 12 47 3 17 36 3 4 49 1 18 44 1 11 13 31 5 28 | 25 22 59 | MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV O DEC | 8 15 42 7 4 26 6 17 10 5 5 54 20 0 16 4 18 38 3 7 22 1 20 6 (1 8 50 (30 21 34 29 10 18 (14 4 40 (28 23 2 | 29 9 48 14 8 35 28 20 41 |
| 300. F. 25 11 21 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT . NOV DEC | 29 20 87 28 9 21 29 22 5 28 10 49 27 28 88 26 12 17 26 1 1 24 18 45 23 2 29 22 15 18 21 3 57 20 16 41 | 30 0 12 28 18 1 30 9 44 28 22 43 28 9 10 26 17 46 26 1 33 24 9 34 22 18 36 22 5 17 20 17 55 20 8 30 | 297. c.b. 25 4 48 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV DEC | 27 11 47 26 0 81 26 18 15 25 1 59 24 14 48 { 8 9 5 28 8 27 22 16 11 21 4 55 19 17 89 19 6 28 17 19 7 17 7 51 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|--|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 296. | | d. h. m. | d. h. m. | B.C. 293. | | d. h. m. | d. h. m. |
| Α, | JAN. | 15 20 36 | 15 23 1 | E.D. | JAN | 13 11 46 | 13 23 32 |
| March. | FEB. | 14 9 20 | 14 8 50 | March. | FEB | 12 0 30 | 12 14 23 |
| d. h. m. 25 10 36 | MAR. | 15 22 4 | 15 18 19 | d. h. m. 25 4 3 | MAR | (12 13 14 | 13 2 12 |
| 25 10 50 | | 14 10 48 | 14 4 9 | | 0 | 27 7 36 | 27 2 50 |
| | APRIL | | 13 15 7 | | APRIL | 11 1 58 | 11 11 28 |
| | MAY. | 13 23 32 | 12 3 53 | | MAY. | 10 14 42 | 10 18 45 |
| | JUNE. | 12 12 16 12 1 0 | 11 18 33 | | June. | 9 3 26 | 9 1 24 |
| | JULY. | | | | JULY. | 8 16 10 | 8 8 24 |
| | Aug | 10 13 44 | 10 10 44 | | | | 6 16 51 |
| 1 | SEPT | 9 2 28 | 9 3 43 | | Aug | | 5 3 42 |
| | Oct | 8 15 12 | 8 20 27 | | SEPT | 5 17 38 | 4 17 33 |
| | Nov | 7 3 56 | 7 12 9 | | Oct | 5 6 22 | |
| | Dec | 6 16 40 | 7 2 17 | | Nov. | 3 19 6 | 3 10 18 |
| | | | | | DEC | 3 7 50 | 3 5 9 |
| 295. | JAN | 5 5 24 | 5 14 35 | | 1 | | |
| G. | FEB | 3 18 8 | 4 1 6 | 292. | Tusy | 1 20 34 | 2 0 38 |
| 25 16 25 | MAR. | 5 6 52 | 5 10 7 | c. | JAN | 31 9 18 | 31 19 4 |
| | APRIL | (3 19 36 | 3 18 14 | | FEB. O | 15 3 40 | 15 0 50 |
| | 0 | 18 13 58 | 19 0 1 | 05 0 50 | 1 | (122 2 | 2 11 9 |
| | MAY . | 3 8 20 | 3 2 17 | 25 9 52 | MAR | 31 10 46 | (1 0 12 |
| Į | JUNE . | 1 21 4 | (1 11 17 | | APRIL | 29 23 30 | 30 10 22 |
| İ | 00112 | (1 9 48 | 30 22 11 | | MAY . | 29 12 14 | 29 18 27 |
| | JULY. | 30 22 32 | 30 11 37 | | JUNE . | 28 0 58 | 28 1 30 |
| | Aug | 29 11 16 | 29 3 36 | | JULY. | 27 13 42 | 27 8 39 |
| | SEPT. | 28 0 0 | 27 21 28 | | Aug. | 26 2 26 | 25 16 51 |
| | 0 | (12 18 22 | | | SEPT. | 24 15 10 | 24 2 59 |
| | OCT | 27 12 44 | | | OCT. | 24 3 54 | 23 15 36 |
| | Nov. | • | 26 9 52 | | Nov. | 22 16 38 | 22 6 50 |
| | DEC. | 25 14 12 | 26 1 54 | | DEC. | 22 5 22 | 22 0 12 |
| | 1 220. | | 100 | | 220 | 0 | |
| 294. | T | 24 2 57 | 24 15 24 | 001 | T | 20 18 7 | 20 18 48 |
| F. | JAN. | 22 15 41 | 1 | 291. B. | JAN | 1 | 4 16 40 |
| 25 22 14 | FEB. | 1 | | J. | 0 | 14 | 19 13 0 |
| 20 22 14 | | | | | FEB | (19 6 51 | |
| | 0 | $\begin{cases} 7 & 22 & 47 \\ 22 & 17 & 9 \end{cases}$ | 1 | 25 15 40 | MAR. | 20 19 35 | 19 20 8 |
| 1 | APRIL | | 1 | | APRIL | 19 8 19 | |
| | MAY . | 1 |] | | MAY . | I | 19 7 45 |
| | JUNE . | 1 | 1 | | JUNE . | | 17 17 15 |
| | JULY . | 1 | | | JULY . | 14 | |
| | A.UG. | | | | 0 | (31 16 58 | |
| | SEPT. | | 1 | | Aug. | | |
| | 0 | $\begin{cases} 2 & 3 & 11 \\ 12 & 21 & 22 \end{cases}$ | 1 | | SEPT. | 1 | 1 |
| | Oct. | . \\16 21 33 | | | Ост. | | 1 |
| | Nov. | . 15 10 17 | | | Nov. | 1 | |
| 1 | DEC. | . 14 23 1 | . 15 5 56 | | DEC. | . 11 14 11 | 11 5 15 |
| L | 1 | 1 | 1 | H | 1 | 1 | |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--|--|--|---------------------------------------|--|--|---|
| | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov | d. h. m. {10 2 56 24 21 18 8 15 40 10 4 24 8 17 8 8 5 52 6 18 36 { 6 7 20 21 1 42 4 20 4 3 8 48 2 21 32 { 1 10 16 30 23 0 | d. h. m. 9 20 31 25 8 12 8 13 2 10 6 4 8 22 39 8 13 54 7 3 16 6 14 46 20 12 47 5 0 53 3 10 21 2 19 57 1 6 12 30 17 18 | B.C. 287. D. March. d. h. m. 25 14 55 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O Nov | d. h. m. 6 18 6 5 6 50 6 19 34 5 8 18 { 4 21 2 19 15 24 3 9 46 2 22 30 { 1 11 14 30 23 58 29 12 42 29 1 26 { 12 19 48 27 14 10 | Moon. (O Full Ecl.) d. h. m. 6 22 17 5 8 15 6 17 35 5 2 54 4 12 59 20 1 26 3 0 39 2 14 18 1 5 52 30 22 47 29 16 0 29 8 35 12 8 58 27 23 44 |
| 289. G.F. 25 8 18 | JAN FEB MAR APRIL MAY . JULY . AUG SEPT OCT NOV DEC | 29 0 28 27 18 12 28 1 56 26 14 40 26 3 24 24 16 8 24 4 52 22 17 36 21 6 20 20 19 4 19 7 48 18 20 32 | 30 5 18 28 18 18 27 8 18 27 28 18 26 14 44 26 6 13 24 21 2 24 10 45 22 28 15 21 10 50 20 21 56 19 8 51 18 19 42 17 6 30 | 286. c. 25 20 44 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | 27 2 54 25 15 88 24 4 22 25 17 6 24 5 50 { 9 0 12 23 18 34 22 7 18 21 20 2 20 8 46 18 21 30 18 10 14 { 2 4 36 16 22 58 16 11 42 | 27 13 2 26 0 21 24 9 53 25 18 11 24 1 59 9 10 15 28 10 18 21 19 57 21 8 2 19 22 52 18 16 4 18 10 38 1 21 55 17 5 11 16 22 21 |
| 25 9 7 | FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | 15 22 0 17 10 45 15 28 29 {15 12 18 80 6 85 14 0 57 18 18 41 12 2 25 10 15 9 10 3 58 { 8 16 87 23 10 59 8 5 21 | 15 17 26 17 4 55 15 17 22 15 7 6 80 10 17 18 22 0 18 18 87 12 5 16 10 20 19 10 10 21 8 28 25 28 2 47 8 11 22 | 285. B.A. 25 2 88 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 15 0 27 18 18 11 14 1 55 12 14 89 12 3 28 10 16 7 10 4 51 8 17 85 7 6 19 6 19 8 5 7 47 4 20 81 | 15 18 11 14 1 18 14 10 58 12 18 48 12 1 45 10 8 51 9 17 12 8 8 51 6 17 29 6 10 4 5 4 52 5 0 25 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|--|---|---|---|---|---|--|
| B.C. 284. G. March. d. h. m. 25 8 22 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DBC | d. h. m. 3 9 15 1 21 59 3 10 48 18 5 5 1 23 27 11 12 11 81 0 55 29 18 39 29 2 23 27 15 7 11 9 29 26 3 51 25 16 35 24 5 19 23 18 3 | d. h. m. 3 19 2 2 11 18 4 0 33 17 23 35 2 10 53 1 18 58 31 1 49 29 8 31 28 16 10 27 1 50 11 15 12 25 14 13 25 5 37 23 23 33 23 18 52 | B.C. 281. D.C. March. d. h. m. 25 1 48 | Jan. O Feb. Mar April May . June . O July . Aug Sept Oct Nov Dec | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | d. h. m. 16 6 35 30 8 34 29 1 10 29 17 52 28 9 47 28 0 9 26 12 42 10 10 48 25 28 38 24 9 35 22 19 18 22 5 22 20 16 5 20 3 34 |
| 283. F. 25 14 11 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 22 6 48 20 19 32 { 7 18 54 22 8 16 20 21 0 20 9 44 18 22 28 18 11 12 { 16 23 56 81 18 18 15 12 40 15 1 24 18 14 8 | 22 13 57 21 7 14 7 9 56 22 21 44 21 9 14 20 18 16 19 1 45 18 8 50 16 16 31 31 20 4 15 1 45 14 13 11 13 3 7 12 19 25 | 280. B. 25 7 87 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | \[\begin{array}{cccccccccccccccccccccccccccccccccccc | 4 15 7 18 15 52 17 5 4 18 19 15 17 10 17 17 1 45 15 17 0 80 0 16 15 7 29 18 20 50 12 9 8 11 20 42 10 7 51 9 18 46 |
| 282. E. 25 20 0 | APRIL MAY JUNE JULY AUG. SEPT. OCT. | 10 5 49 9 18 33 8 7 17 7 20 1 6 8 45 4 21 29 4 10 13 2 22 57 | 2 14 1 | 279. A. 25 13 26 | JAN FEB MAR A FRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC. | $\begin{cases} 1 & 1 & 22 \\ 30 & 14 & 6 \end{cases}$ | 4 9 1 8 0 54 1 16 85 1 7 29 8 80 21 19 29 9 56 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--------------------------------------|--|--|---|--------------------------------------|--|--|--|
| B.C. 278. | | d. h. m. | d. h. m. | B.C. 275. | | d. h. m. | d. h. m. |
| G. March. d. h. m. 25 19 15 | Jan Feb Mar April May . June . July . | 27 4 19 25 17 3 27 5 47 25 18 31 25 7 15 23 19 59 23 8 43 | 27 7 40 25 17 4 27 2 3 25 11 25 24 22 1 23 10 32 23 1 14 | c. March. d. h. m. 25 12 41 | JAN FEB MAR O APRIL MAY . JUNE . | 23 19 29 22 8 13 23 20 57 { 7 15 19 22 9 41 21 22 25 20 11 9 | 24 7 30 22 22 14 24 9 53 7 9 53 22 18 55 22 2 18 20 8 52 |
| \$ 77. | Aug Sept Oct Nov Dec | 21 21 27 20 10 11 19 22 55 18 11 39 18 0 23 | 21 17 43 20 11 9 20 4 25 18 20 35 18 10 57 | | JULY . AUG SEPT O OCT Nov DEC | $ \begin{vmatrix} 19 & 23 & 58 \\ 18 & 12 & 37 \\ 17 & 1 & 21 \\ 1 & 19 & 48 \\ 16 & 14 & 5 \\ 15 & 2 & 49 \\ 14 & 15 & 33 \end{vmatrix} $ | 19 15 58 18 0 37 16 11 40 2 1 47 16 1 37 14 18 23 14 13 8 |
| F.E. 25 1 4 | FEB. MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O Nov DEC | 15 1 52 15 14 36 {14 8 20 28 21 42 18 16 4 12 4 48 11 17 32 10 6 16 8 19 0 {8 7 44 23 2 6 6 20 28 6 9 12 | 15 9 81 15 18 11 14 1 55 29 6 45 18 9 38 11 18 28 11 5 11 9 18 40 8 10 58 8 5 4 22 20 57 6 28 59 6 18 8 | 274. B. 25 18 30 | JAN FEE O MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 13 4 18 {11 17 2 26 11 24 18 5 46 11 18 80 11 7 14 9 19 58 9 8 42 7 21 26 6 10 10 5 22 54 4 11 88 4 0 22 | 18 8 27 12 2 40 26 9 1 18 18 32 12 7 28 11 17 38 10 1 49 9 9 3 7 16 28 6 0 59 5 11 23 4 0 5 8 15 12 |
| 276. D. 25 6 58 | Jan Feb Mar April O May . June . July . Aug Sept O Oct Nov Dec | $\begin{array}{c} 4\ 21\ 57\\ 8\ 10\ 41\\ 4\ 28\ 25\\ \left\{\begin{array}{cccccccccccccccccccccccccccccccccccc$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 273. A.G. 25 0 19 | JAN FEB O MAR APRIL MAY . JUNE . JULY . O AUG SEPF OOT NOV DEC | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2 8 15 1 2 20 16 1 15 1 20 18 81 12 41 80 2 56 29 14 44 28 0 80 27 9 6 10 15 25 25 17 28 24 2 80 28 12 44 22 0 27 21 18 47 |

225

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|--|---|---|---|---|--|
| B.C. 272. F. March. d. h. m. 25 6 8 | JAN O FEB MAR APRIL MAY . JUNE . O AUG SEPT OOT NOV DEC | d. h. m. 20 10 39 { 4 5 1 {18 28 23 20 12 7 19 0 51 18 13 35 17 2 19 {16 15 3 {31 9 25 15 3 47 13 16 31 13 5 15 11 17 59 11 6 48 | d. h. m. 20 4 36 4 16 35 18 20 33 20 13 3 19 5 18 18 20 27 17 10 2 16 21 56 30 20 1 15 8 32 13 18 33 13 4 36 11 15 7 11 2 11 | B.C. 269. c.B. March. d. h. m. 24 23 34 | JAN FEB MAR APRIL MAY O . JUNE JULY . AUG SEPT OCT NOV | d. h. m. 18 1 49 16 14 33 17 3 17 15 16 1 {15 4 45} {29 23 7 13 17 20 13 6 13 11 18 57 10 7 41 9 20 25 {8 9 9 {23 3 31 7 21 53 | d. h. m. 18 7 1 16 16 39 17 1 31 15 10 21 14 20 2 30 8 34 13 7 24 12 21 0 11 12 45 10 6 2 9 23 45 8 16 49 22 17 36 8 \$18 |
| 271. E. 25 11 57 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 9 19 28 8 8 12 9 20 56 8 9 40 7 22 24 6 11 8 5 23 52 4 12 36 3 1 20 2 14 4 { 1 2 48 { 30 15 32 80 4 16 | 9 13 56 8 2 24 9 15 46 8 6 8 7 21 16 6 12 40 6 3 43 4 17 53 3 6 58 2 19 10 1 6 42 30 17 50 30 4 36 | 268. A. 25 5 23 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O Nov | 6 10 88 4 28 22 6 12 6 5 0 50 4 18 81 19 7 56 8 2 18 2 15 2 1 3 46 80 16 30 29 5 14 28 17 58 12 12 20 27 6 42 | 6 21 41 5 8 50 6 18 4 5 2 0 4 9 26 19 16 59 2 17 26 { 2 3 1 31 15 7 80 6 5 28 28 88 28 18 27 12 6 49 27 18 19 |
| 270. D. 25 17 46 | JAN FEB MAR | 28 17 0 27 5 44 28 18 28 27 7 12 26 19 56 (10 14 18 {25 8 40 24 21 24 23 10 8 21 22 52 21 11 36 20 0 20 {4 18 42 {19 13 4 | 28 15 3 27 1 29 28 12 22 27 0 16 26 18 39 10 17 40 25 4 29 24 20 18 23 12 24 22 4 3 21 18 43 20 8 9 4 10 58 19 20 14 | 267. g. 25 11 12 | DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 26 19 26 25 8 10 23 20 54 25 9 83 23 22 22 23 11 6 21 28 50 21 12 84 20 1 18 18 14 2 18 2 46 16 15 30 16 4 14 | 27 6 89 25 21 27 24 9 24 25 18 49 24 2 25 28 9 12 21 16 12 21 0 86 19 11 20 18 1 6 17 17 52 16 12 47 16 8 25 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 266. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| F | JAN | 14 16 59 | 15 2 59 | 263. | JAN | ∫11 8 9 | 11 1 10 |
| March. $d. h. m.$ | FEB | 13 5 43 | 13 19 9 | B. March. | 0 | 126 2 31 | 26 15 1 |
| 25 17 1 | MAR | £14 18 27 | 15 8 15 | d. $h.$ $m.$ | FEB | 9 20 53 | 9 16 20 |
| | 0 | 129 12 49 | 29 6 52 | 25 10 27 | MAR | 11 9 37 | 11 8 21 |
| | APRIL | 13 7 11 | 13 18 26 | | APRIL | 9 22 21 | 10 0 37 |
| | May . | 12 19 55 | 13 2 26 | | MAY . | 9 11 5 | 9 16 19 |
| | June . | 11 8 39 | 11 9 15 | | June . | 7 23 49 | 8 6 48 |
| | JULY . | 10 21 23 | 10 16 4 | | JULY. | 7 12 33 | 7 19 41 |
| | Aug | 9 10 7 | 8 23 55 | | Aug | 6 1 17 | 6 7 6 |
| | SEPT | (7 22 51 | 7 9 47 | | SEPT | 4 14 1 | 4 17 37 |
| | 0 | 22 17 13 | 22 23 7 | | Ocr | 4 2 45 | 4 3 49 |
| | Oct | 7 11 35 | 6 21 20 | | Nov. | 2 15 29 | 2 14 14 |
| | Nov. | 6 0 19 | 5 13 47 | | 2.07. | (2 4 13 | 2 1 2 |
| | DEC | 5 13 3 | 5 7 38 | | DEC | 31 16 58 | 31 12 21 |
| | D140 | 0 10 0 | 0.00 | | | 102 20 00 | 01 11 11 |
| 265. | JAN | 4 1 48 | 4 2 46 | | 0 | (15 11 20 | 15 23 14 |
| E.D. | FEB | 2 14 32 | 2 21 35 | 262. | JAN | 30 5 42 | 30 0 12 |
| 21 22 50 | MAR. | (3 3 16 | 3 14 37 | A. | FEB. | 23 18 26 | 28 12 49 |
| 2± 22 30 | 0 | 17 21 38 | 17 17 47 | 25 16 16 | MAR. | 30 7 10 | 30 2 23 |
| | APRIL | 1 16 0 | 2 4 59 | 20 10 10 | APRIL | 28 19 54 | 28 16 56 |
| | ZIMIL | (1 4 44 | 1 16 27 | | MAY. | 28 8 38 | 28 8 12 |
| | MAY . | 30 17 28 | 31 1 32 | | June . | 26 21 22 | 26 23 33 |
| | June . | 29 6 12 | 29 9 13 | } | | (11 15 44 | 11 7 47 |
| | | 28 18 56 | 29 16 33 | . 4 | JULY. | 26 10 6 | 26 14 24 |
| | JULY. | 1 | | 1 1 | Aug. | 24 22 50 | 25 4 18 |
| | Aug | 1 | 27 0 35 11 3 22 | | SEPT. | 23 11 34 | 23 17 18 |
| | 0 | 13 | | | 1 . | 23 11 34 | 23 5 19 |
| | SEPT | 125 20 24 | | | Oct | 21 13 2 | 21 16 46 |
| | Oct | 25 9 8 | 24 21 43 | | Nov. | | |
| | Nov. | 28 21 52 | 23 11 36 23 3 38 | | DEC | 21 1 46 | 21 3 43 |
| | DEC | 28 10 86 | 23 3 38 | | 0 | (420 8 | 5 0 25 |
| 264. | Jan | 21 23 20 | 21 21 7 | 261. | JAN. | 19 14 80 | 19 14 12 |
| C. | FEB | 20 12 4 | 20 15 2 | G.F. | FEB. | 18 8 14 | 18 0 22 |
| | | 7 6 26 | 7 9 35 | 24 22 5 | MAR. | 18 15 58 | 18 10 40 |
| 25 4 39 | MAR. | 22 0 48 | 22 8 10 | 24 44 0 | APRIL | 17 4 42 | 16 21 43 |
| 20 4 59 | | | 20 23 31 | | | 16 17 26 | 16 10 9 |
| | APRIL | 20 13 32 20 2 16 | 20 23 31 | | MAY . | (15 6 10 | 15 0 10 |
| | MAY . | | | | JUNE. | 80 0 82 | 80 0 52 |
| | JUNE . | 18 15 0 | 18 28 22 | | T | 14 18 54 | 14 15 87 |
| | JULY. | 18 3 44 | 18 8 97 | | JULY. | | 1 |
| | A.UG | 16 16 28 | 16 17 18 | | Aug. | 13 7 38 | 18 7 51 |
| | SEPT | 15 5 12 | 15 2 3 | | SEPT | 11 20 22 | 12 0 5 |
| | Oct | 14 17 56 | 14 11 47 | | Oct | 11 9 6 | 11 15 85 |
| | Nov | 13 6 40 | 12 22 49 | | Nov. | 9 21 50 | 10 5 53 |
| | DEC | 12 19 24 | 12 11 16 | | DEC. | 9 10 34 | 9 18 47 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. |
|----------------------------|----------------|------------------------------------|------------------------------------|----------------------------|--|------------------------------------|-------------------|
| B.C. 260. | P. 1001 - 2001 | d. h. m. | d. h. m. | B.C. 257. | A POLYMent Control of the Control of | d. h. m. | d. h. m. |
| E. | JAN | 7 23 19 | 8 6 11 | B.A. | JAN | 5 14 29 | 5 21 54 |
| March. | FEB | 6 12 3 | 6 16 13 | March. | FEB | 4 8 13 | 4 15 20 |
| d. h. m. 25 3 54 | MAR. | 8 0 47 | 8 1 11 | d. h. m. 24 21 20 | MAR. | 4 15 57 | 5 5 55 |
| 20 0 01 | APRIL | 6 13 31 | 6 9 48 | 21 22 20 | APRIL | (8 4 41 | 8 17 26 |
| 111 | MAY. | 6 2 15 | 5 18 38 | | 0 | 17 28 8 | 17 16 54 |
| | | 4 14 59 | | | | 2 17 25 | 8 2 21 |
| | JUNE. | | | | MAY. | | 1 9 84 |
| | JULY. | 4 3 43 | 3 17 18 | İ | June . | 1 6 9 | |
| | Aug | 2 16 27 | 284 | | | (80 18 58 | 80 16 21 |
| | SEPT. | $\int 1 5 11$ | 1 0 50 | | July. | 80 7 87 | 20 28 41 |
| | N21 1. 1 | (80 17 55 | 30 18 48 | | Aug | 28 20 21 | 28 8 82 |
| | Ocr | 30 6 39 | 30 12 29 | 1 | SEPT | 27 9 5 | 26 19 46 |
| 1 | Nov | 28 19 28 | 29 5 2 | | 0 | £12 8 27 | 12 10 8 |
| | DEC | 28 8 7 | 28 19 88 | | Oct | 20 21 49 | 26 9 50 |
| | | | | | Nov. | 25 10 83 | 25 2 84 |
| 050 | T | 26 20 52 | 97 7 47 | 1 | DEC. | 24 28 17 | 24 21 7 |
| 259. | JAN | | 27 7 47 | | 27201 | | |
| | FEB | 25 9 86 | 25 17 47 | | _ | | |
| 25 9 48 | MAR | 26 22 20 | 27 2 6 | 256. | JAN | 28 12 1 | 28 16 7 |
| | APRIL | 25 11 4 | 25 9 80 | G. | FEB | 22 0 45 | 22 10 4 |
| 1.11 | 0 | ∫10 5 26 | 10 18 25 | 25 8 9 | MAR | 28 18 29 | 24 1 45 |
| | MAY. | (24 23 48 | 24 16 56 | | APRIL | 22 2 18 | 22 14 86 |
| | June . | 28 12 82 | 28 1 82 | | MAY . | 21 14 57 | 22 0 49 |
| | JULY. | 28 1 16 | 22 12 17 | | June . | 20 8 41 | 20 9 9 |
| 18 | Aug | 21 14 0 | 21 1 52 |] | July. | 19 16 28 | 19 16 40 |
| 1 | SEPT. | 20 2 44 | 19 18 17 | | Aug | 18 5 9 | 18 0 24 |
| | Oct | 19 15 28 | 19 12 47 | | SEPT. | 16 17 58 | 16 9 16 |
| | 0 | (3 9 50 | 3 5 48 | 1 | Oct. | 16 6 87 | 15 19 58 |
| | Nov. | 18 4 12 | 18 8 0 | | Nov. | 14 19 21 | 14 8 89 |
| | DEC. | 17 16 56 | 18 2 22 | | - | | |
| | D40. | 11 10 00 | 10 2 22 | | DEC | 14 8 5 | 18 28 88 |
| 258. | _ | | | | | | |
| 200. C. | JAN., | 16 5 40 | 16 18 81 | 255. | JAN | 12 20 50 | 12 16 14 |
| | FEB | 14 18 24 | 15 7 50 | F. | FEB | ſ11 9 84 | 11 9 51 |
| 25 15 82 | MAR | 16 7 8 | 16 18 20 | | 0 | 26 8 56 | 26 9 24 |
| | APRIL | ∫14 19 52 | 15 2 38 | 25 8 58 | MAR | 12 22 18 | 18 8 18 |
| | 0 | (29 14 14 | 29 14 18 | | APRIL | 11 11 2 | 11 19 81 |
| | MAY . | 14 8 36 | 14 9 85 | | MAY . | 10 28 46 | 11 9 44 |
| | JUNE . | 12 21 20 | 12 16 19 | | June . | 9 12 80 | 9 21 42 |
| | JULY. | 12 10 4 | 11 28 58 | | JULY. | 9 1 14 | 9 7 48 |
| | Aug | 10 22 48 | 10 9 24 | | | 7 18 58 | 7 16 49 |
| | SEPT | 9 11 82 | 8 21 41 | | 0 | 22 8 20 | 21 22 29 |
| | Oct | (9 0 16 | | | SEPT | 6 2 42 | 6 1 29 |
| | 0 | 23 18 88 | 23 21 32 | | Oct. | | |
| | Nov | 7 18 0 | 7 7 7 | | | 5 15 26 | 5 11 4 |
| | DEC | | | | Nov DEC | 4 4 10 8 16 54 | 8 21 82 8 9 15 |
| | | | | | | | |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|----------------------|--------|--|---------------------|-------------------|-------------|---------------------|---------------------|
| Equinox. | | (O Full Ecl.) | (O Full Ecl.) | Equinox. | | (O Full Ecl.) | (O Full Ecl.) |
| B.C. | | d. h. m. | d. h. m. | B.C. 251. | | d. h. m. | d. h. m. |
| 254. E. | JAN | $\begin{cases} 2 & 5 & 39 \\ 31 & 18 & 23 \end{cases}$ | 1 22 19 31 12 36 | March. $d. h. m.$ | JAN Feb | 28 9 33 26 22 17 | 28 15 40 27 0 56 |
| | FEB | (| | 25 8 13 | MAR. | 28 11 1 | 28 9 21 |
| March. | 0 | 15 12 45 | 16 0 51 | | APRIL | 26 23 45 | 26 17 44 |
| d. h. m. 25 14 47 | MAR | § 2 7 7 | 2 3 57 | | MAY. | 26 12 29 | 26 3 5 |
| 20 14 41 | MAR. | 31 19 51 | 31 19 56 | | 0 | ∫10 6 51 | 10 15 41 |
| | APRIL | 30 8 35 | 30 11 53 | | June . | \25 1 1 3 | 24 14 14 |
| | MAY . | 29 21 19 | 30 3 2 | | JULY. | 24 13 57 | 24 3 49 |
| | June. | 28 10 3 | 23 16 50 | | Aug | 23 2 41 | 22 19 46 |
| | July. | 27 22 47 | 28 5 11 | | SEPT | 21 15 25 | 21 13 25 |
| | . 0 | $\begin{cases} 11 & 17 & 9 \end{cases}$ | 11 3 23 | | Oct | 21 4 9 | 21 7 38 |
| | Aug | (26 11 31 | 26 16 20 | | Nov. | 19 16 53 | 20 1 7 |
| | SEPT | 25 0 15 | 25 2 53 | | _ 0 | $\int 4 11 15$ | 4 2 16 |
| | Oct | 24 12 59 | 24 13 22 | | DEC | (19 5 37 | 19 16 50 |
| | Nov. | 23 1 43 | 23 0 4 | | | | |
| | DEC | 22 14 27 | 22 11 4 | 250. | JAN | 17 18 21 | 18 6 12 |
| 253. p.c. | JAN | 21 3 11 | 20 22 27 | G. | FEB | 16 7 5 | 16 17 10 |
| | FEB | 19 15 55 | 19 10 22 | 25 14 2 | MAR | 17 19 49 | 18 2 5 |
| 24 20 86 | MAR. | 20 4 39 | 19 23 8 | | APRIL | 16 8 33 | 16 9 40 |
| | APRIL | 18 17 23 | 18 12 57 | | MAY. | 15 21 17 | 15 16 50 |
| | MAY . | 18 6 7 | 18 3 45 | | _ 0 | (30 15 39 | 30 23 38 |
| | JUNE. | 16 18 51 | 16 19 7 | | JUNE . | 14 10 1 | 14 0 38 |
| | July . | 16 7 85 81 1 57 | 16 10 25 | | JULY. | 18 22 45 | 13 10 10 |
| | Aug | 14 20 19 | 30 15 87 15 1 5 | | Aug Sept | 12 11 29 11 0 13 | 11 22 19 |
| | SEPT. | 13 9 8 | 13 14 48 | | Oct. | 10 12 57 | 10 13 20 |
| | Oct | 12 21 47 | 13 14 40 | | Nov. | (9 1 41 | 9 2 21 |
| | Nov. | 11 10 81 | 11 15 80 | | 0 | 23 20 3 | 28 15 43 |
| | DEC. | 10 28 15 | 11 2 47 | | DEC. | 8 14 25 | 8 21 25 |
| | | | | | | 0 12 20 | |
| 252. | JAN. | 9 12 0 | 9 13 26 | 249. | JAN | 7 8 10 | 7 14 51 |
| B. | FEB | 8 0 44 9 13 28 | 7 23 32 9 9 25 | F.E. | FEB. | 5 15 54 | 6 5 36 |
| 25 2 25 | APRIL | 8 2 12 | 7 19 45 | 24 19 51 | MAR. | 6 4 38 | 6 17 23 |
| | MAY. | 7 14 56 | 7 7 10 | 21 10 01 | APRIL | 4 17 22 | 5 2 34 |
| | June. | 6 8 40 | 5 20 15 | | MAY . | 4 6 6 | 4 9 58 |
| | O O | 20 22 2 | 21 1 7 | | June . | 2 18 50 | 2 16 38 |
| | JULY . | 5 16 24 | 5 11 2 | | | (2 7 34 | 1 23 39 |
| | Aug. | 4 5 8 | 4 8 5 | | JULY. | (81 20 18 | 31 8 8 |
| | SEPT. | 2 17 52 | 2 19 39 | | Aug | 30 9 2 | 29 19 1 |
| | | (2 6 86 | 2 11 54 | ' | SEPT | 28 21 46 | 28 8 55 |
| | Ocr | (81 19 20 | (187 | | Ocr | 28 10 30 | 28 1 48 |
| | Nov | 30 8 4 | 80 16 54 | | Nov | 26 23 14 | 26 20 47 |
| | 0 | (15 2 26 | 14 19 10 | | DEC | 26 11 58 | 26 16 21 |
| | DEC | 29 20 48 | 80 5 4 | | | | |

| Mean Vernal Equinox. B.C. | Month. | Mean New | True New | Mean | | Market Street | Trime No. |
|------------------------------------|---------|-------------|----------------|--|---|---|-------------------|
| B.C. | | U - 10 | Moretta, | lanes | M - 454 A | 100 mm 1 | Marin Fari Ant |
| | 1 | (c) Fun ser | (() Full Rel.) | Regunttern &. | 1 | | was well a |
| 040 | | d. h. m. | d. h. m. | The state of the s | ï | dho | 1 1 . |
| 248. | T | 25 0 48 | 25 10 50 | B.C. 246. | 3.4 | 22.15.13 | 22 4 25 |
| March. | JAN. | 28 18 27 | 21 2 50 | A 44. | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | 6 10 15 | 5 23 14 |
| d. h. m. | FEB | | 25 15 47 | Marile. | Fas | 121 4 2 | 2 - 11 - 149 |
| 25 1 40 | MAR. | C 8 20 88 | H 11 5 | d h m | Man | 21 17 . 1 | |
| | 0 | 2 | 24 1 51 | 24 19 6 | Arazi | ** ** ** | - |
| | APRIL | (23) 14 55 | | ÷ | Mar | 1 : 1 : 4 : 5 | |
| | May . | 28 8 89 | | į. d | Jens. | | |
| | June . | 21 16 28 | 21 16 44 | | | \$ 19 \$ 12,3 | 14 11 28. |
| | July. | 21 5 7 | 2 23 44 | | 31 2 4 . | 11 2 11 | 19 / 18 |
| | Aug | 19 17 M | 19 7 49 | 1 | Atsu | 341 28 \$ | \$ 16 \$ \$ far |
| | SEPT | 18 6 85 | 17 17 64 | | HERT . | 11 11 17 | 1 1 1 1 |
| | 0 | 8 0 57 | 8 7 10 | | . they | 3 8 8 10 7 2 | 14 12 21 |
| | Ост. | (17 19 19 | 17 6 86 | | Not . | 11 23 15 | 1 2 27 10 |
| | Nov. | 16 8 8 | 15 24 2 | İ | Dau . | 12 11 57 | 12 10 0 |
| | DEC | 15 20 47 | 15 15 48 | 044 | | | |
| 247. | JAM. , | 14 9 81 | 14 10 82 | 244. | Jan. | 4 3 3 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | 311 25 4 |
| C. | Fun | 12 22 15 | 18 5 2 | | ** | # 275 \$18 ON | ·神· 音音 |
| 25 7 29 | MAR | (14 10 50 | 14 21 70 | 25 0 55 | Van . | 11 10 KB | 20 M (A) |
| | 0 | 29 5 21 | 20 1 20 | 25 0 55 | Man . | 11 2 0 | Bus Tab The |
| | APRIL | 12 28 48 | 18 12 4 | | Aran | 9 14 73 | \$ \$ \$ |
| | MAY . | 12 12 27 | 12 23 25 | | Mas . | 0 8 57 | 4 公 編 |
| | Junn . | 11 1 11 | 11 H 47 | | June . | 7 10 21 | 7 14 87 |
| | Jur.y . | 10 18 55 | 10 16 42 | | Jan. | 1 5 5 | 7 6 7 |
| | Aug | 9 2 90 | 0 0 28 | | 4. | 141 20 71 | 21 15 73 |
| | SEPT | (7 15 28 | 7 8 47 | | A tra. | 5 47 40 | 5 11 21 |
| | 0 | (22 9 45 | 22 10 51 | , | Nery . | 4 43 24.2 | 4 11 feit , |
| | Ocr | 7 4 7 | 6 18 85 | | Ocy, | n 10 1: | 8 1 24 |
| | Nov | 5 16 51 | 5 6 18 | | Not | 2 10 1 | 2 18 50 |
| | DEC | 5 5 83 | 4 20 6 | 4 | Ders . | 1 30 40 | 2 1 42 |
| 248. | JAN | 8 18 20 | 8 11 49 | | | 121 0 20 | a: 12 a7 |
| В. | FED. | 2 7 4 | 2 4 49 | | | | |
| 25 18 18 | MAR. | (8 10 48 | 8 22 14 | 243. | *** | 13 # 43 | 15 9 12 |
| | 0 | 18 14 10 | 18 17 86 | # | Jan . | 120 22 11 | A 20 10 |
| | APRIL | 2 8 82 | 2 15 4 | 25 6 44 | | 24 10 ta | In a sel |
| | | (1 21 16 | 2 6 17 | 1001 zh ded | Man. | An Ma et | 20 14 16 |
| | MAY . | 81 10 0 | 81 19 24 | · · | Arms. | 250 12 200 | Jin 4 40 |
| l | JUNN . | 29 22 44 | 80 6 81 | 9 99 99 | May . | igna 1 14: | 27 10 51 |
| ļ | JULY . | 29 11 28 | 29 16 10 | | June . | 20 10 h | 20 6 13 |
| | Ava. | 28 0 12 | 2H 1 14 | *************************************** | 0 | 11 1 10 | 11 * 20 |
| | | (11 18 84 | 11 10 84 | | July . | 130 230 | 25 21 17 |
| | | 26 12 56 | 26 10 29 | | Atte, | 24 15 12 | 34 14 54 |
| | . 1 | | 25 20 88 | | Harr., | 23 4 6 | 20 7 12 |
| | Nov. | 1 | 24 7 40 | | Oct | 24 to bo | 21 20 17 |
| 1 | DEC. | , | 28 19 57 | 1 | Nov. | 21 4 34 | 21 14 81 |
| | | | -0 10 01 | | Dec | 20 10 10 | 21 0 04 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|-------------------------------------|----------------|
| B.C. 242. | | d. h. m. | d. h. m. | B.C. 239. | | d. h. m. | d. h. m. |
| D. | JAN | 19 7 2 | 19 14 53 | G. | JAN | 15 22 12 | 16 5 43 |
| March. $d. h. m.$ | FEB | 17 19 46 | 18 0 37 | March. $d. h. m.$ | FEB | 14 10 56 | 14 22 59 |
| 25 12 33 | Mar | 19 8 30 | 19 9 9 | 25 5 59 | MAR | 15 23 40 | 16 13 25 |
| | APRIL | 17 21 14 | 17 17 15 | | APRIL | (14 12 24 | 15 0 50 |
| | MAY. | 17 9 58 | 17 1 49 | | 0 | 29 6 46 | 28 23 47 |
| | June . | 15 22 42 | 15 11 50 | | MAY . | 14 1 8 | 14 9 42 |
| | July. | 15 11 26 | 15 0 8 | | JUNE . | 12 13 52 | 12 17 2 |
| | Aug | 14 0 10 | 13 15 0 | | JULY. | 12 2 36 | 11 23 56 |
| | SEPT | 12 12 54 | 12 8 5 | | Aug | 10 15 20 | 10 7 29 |
| | Ост | 12 1 38 | 12 2 22 | | SEPT. | 9 4 4 | 8 16 36 |
| | Nov. | 10 14 22 | 10 20 36 | | Oct | (8 16 48 | 8 4 2 |
| | DEC. | 10 3 6 | 10 13 27 | | 0 | 23 11 10 | 23 18 23 |
| | | ~ 0 0 | -0 -0 MI | | Nov. | 7 5 32 | 6 18 8 |
| | | | | | DEC | 6 18 16 | 6 10 43 |
| 241. | JAN | 8 15 51 | 9 4 4 | | DEC | 0 10 10 | 0 10 40 |
| C.B. | FEB | 7 4 35 | 7 16 9 | | | | |
| 24 18 22 | MAR | 7 17 19 | 8 1 53 | 238. | JAN | 5 7 1 | 5 5 1 |
| | APRIL | 6 6 3 | 6 9 52 | F. | FEB | 3 19 45 | 3 23 41 |
| | MAY . | 5 18 47 | 5 16 59 | 25 11 48 | MAR | 5 8 29 | 5 17 19 |
| | 0 | (20 13 9 | 20 20 0 | | APRIL | 3 21 13 | 4 8 50 |
| | June . | 4 7 31 | 4 0 14 | | MAY . | 8 9 57 | 3 21 40 |
| | July . | 3 20 15 | 3 8 45 | | June . | 1 22 41 | 2 7 58 |
| | Arra | 2 8 59 | 1 19 30 | | JULY . | S 1 11 25 | 1 16 32 |
| 1.10 | Aug | (81 21 48 | 31 9 13 | | JULI . | \\ 31 0 9 | 31 0 23 |
| | SEPT | 80 10 27 | 30 1 50 | | Aug | 29 12 58 | 29 8 30 |
| | Ocr | 29 23 11 | 29 20 35 | | SEPT | 28 1 37 | 27 17 41 |
| | 0 | 13 17 33 | 13 14 43 | | Ocr | 27 14 21 | 27 4 31 |
| | Nov | 28 11 55 | 28 16 1 | | Nov | 26 8 5 | 25 17 16 |
| | DEC | 28 0 89 | 28 10 28 | | DEC | 25 15 49 | 25 7 56 |
| 240. | JAN | 26 18 24 | 27 2 39 | 237. | JAN | 24 4 84 | 24 0 8 |
| Α. | FEB | 25 2 8 | 25 15 50 | E.D. | FEB | 22 17 18 | 22 17 13 |
| 25 0 11 | MAR | 26 14 52 | 27 2 8 | | 0 | 5 8 11 40 | 8 17 32 |
| | APRIL | 25 3 36 | 25 10 13 | 24 17 37 | MAR | 23 6 2 | |
| | 0 | 9 21 58 | 9 20 48 | | APRIL | 21 18 46 | 22 2 15 |
| • | MAY . | 24 16 20 | 24 17 8 | | May . | 21 7 80 | 21 16 28 |
| | JUNE . | 23 5 4 | 22 23 46 | | JUNE. | 19 20 14 | 20 4 89 |
| | July'. | 22 17 48 | 22 7 26 | | JULY . | 19 8 58 | 19 15 9 |
| | Aug | 21 6 82 | 20 17 4 | | Aug | 17 21 42 | 18 0 89 |
| | SEPT | 19 19 16 | 19 5 31 | | 0 | 1 16 4 | 1 |
| | Oct | 19 8 0 | 18 21 1 | | SEPT | 16 10 26 | |
| | 0 | (8 2 22 | 3 6 20 | | Oct | 15 28 10 | 15 19 45 |
| | Nov | 17 20 44 | 17 15 7 | | Nov | 14 11 54 | 14 6 25 |
| | DEC | 17 9 28 | 17 10 34 | | DEC | 14 0 38 | 19 18 4 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|----------------------------|--|---|---|----------------------------|---|---|---|
| Vernal | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG OCT NOV DEC JAN FEB APRIL MAY . JUNE . JULY . OAUG SEPT OCT NOV | Moon. | Moon. (C) Full Ed.) d. h. m. 12 6 45 10 20 29 26 8 56 12 11 14 11 2 43 10 18 22 9 9 32 8 23 39 7 12 30 21 12 53 6 0 14 5 11 20 3 22 12 3 9 2 1 19 55 31 6 54 1 18 15 31 6 24 29 19 43 29 10 13 28 1 36 27 17 13 10 23 22 26 8 25 24 22 45 24 12 4 23 0 22 | Vernal | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV | Moon. (O Full Ecl. d. h. m. 10 4 32 8 17 16 9 6 0 7 18 44 7 7 28 { 5 20 12 20 14 84 5 8 56 8 21 40 2 10 24 { 1 23 8 31 11 52 30 0 86 { 14 18 58 29 18 20 28 2 5 26 14 49 28 8 38 26 16 17 26 5 1 { 9 23 28 24 17 45 24 6 29 22 19 18 21 7 57 20 20 41 19 9 25 | Moon. d. h. m. 10 18 48 9 0 10 9 9 2 7 17 8 7 1 5 5 10 6 20 22 47 4 21 8 8 10 45 2 2 55 1 20 56 81 15 84 80 9 24 14 10 57 80 1 17 28 14 87 27 1 81 28 9 59 26 17 17 26 0 18 10 6 17 24 7 55 28 17 27 22 5 41 20 20 59 20 14 55 19 10 17 |
| | Aug Sept Oct Nov | 26 4 3 24 16 47 24 5 31 22 18 15 | 26 8 25 24 22 45 24 12 4 | | Aug Sept Oct Nov | 22 19 18 21 7 57 20 20 41 19 9 25 { 4 8 47 | 22 5 41 20 20 59 20 14 55 19 10 17 4 0 40 |
| 234. a. 25 11 4 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | ∫11 15 48 | 20 22 10 19 7 51 20 17 14 19 8 8 18 14 8 17 2 58 2 8 36 16 17 40 15 10 0 14 8 4 13 19 52 12 11 33 12 1 38 26 8 28 | 231. D. 25 4 80 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 17 10 58 15 28 37 17 12 21 16 1 5 15 18 49 14 2 88 18 15 17 12 4 1 10 16 45 10 5 29 8 18 18 8 6 57 | 19 5 80 17 22 55 16 18 54 18 1 10 16 10 10 15 17 26 14 0 5 18 7 9 11 15 46 10 2 50 9 16 54 8 9 49 |

| | 1 | | | | | | |
|----------------------------|--------|------------------------------------|----------------|----------------------------|--------|------------------------------------|----------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| B.C. 230. | | d. h. m. | d. h. m. | B.C. 227. | | d. h. m. | d. h. m. |
| March. | JAN | 6 19 42 | 7 0 12 | F. | JAN | 3 10 52 | 3 4 36 |
| d. h. m. | FEB | 5 8 26 | 5 18 30 | March. d. h. m. | FEB | 1 23 36 | 1 17 33 |
| 25 10 19 | MAR | 6 21 10 | 7 10 20 | 25 8 45 | MAR. | 3 12 20 | |
| | APRIL | (5 9 54 | 5 23 10 | | | | |
| | 0 | 20 4 16 | 19 21 12 | | APRIL | | 1 22 22 |
| | | 1 | | | MAY . | $\int 1 13 48$ | 1 13 50 |
| | MAY. | | 5 9 11 | | | (31 2 32 | 81 5 17 |
| | JUNE . | 3 11 22 | 3 17 11 | | JUNE . | 29 15 16 | 29 20 5 |
| | JULY. | 3 0 6 | 3 0 14 | | JULY. | 29 4 0 | 29 9 47 |
| | Aug | $\int 1 12 50$ | 1 7 27 | | Aug | 27 16 44 | 27 22 20 |
| 1 3 | Aug. | (31 1 34 | 80 15 49 | | SEPT | 26 5 28 | 26 9 59 |
| | SEPT | 29 14 18 | 29 2 9 | | Oct. | 25 18 12 | 25 21 9 |
| | 0 | (14 8 40 | 14 15 16 | | Nov. | 24 6 56 | |
| | Oct | 29 3 2 | 28 14 58 | | | | |
| | Nov. | 27 15 46 | 27 6 20 | | DEC | 23 19 40 | 23 18 55 |
|) | | 27 4 30 | 26 23 45 | 226. | ~ | 00 0 05 | |
| | DEC | 27 4 50 | 20 25 45 | E. | JAN | 22 8 25 | 22 5 40 |
| 229. | JAN | 25 17 15 | 25 18 13 | | _ 0 | $\int 6 247$ | 6 15 1 |
| B.A. | FEB | 24 5 59 | 24 12 22 | | FEB | (20 21 9 | 20 16 33 |
| 24 16 8 | MAR. | 24 18 43 | 25 4 55 | 25 9 84 | MAR | 22 9 58 | 22 3 56 |
| | | (8 18 5 | 8 9 8 | | APRIL | 20 22 37 | 20 16 22 |
| | 0 | 17 | | | MAY . | 20 11 21 | 20 6 7 |
| | APRIL | | 23 19 3 | | JUNE. | 19 0 5 | 18 21 4 |
| | MAY . | 22 20 11 | 23 6 36 | | JULY. | 18 12 49 | 18 12 45 |
| | June. | 21 8 55 | 21 16 3 | | 0 | (2711 | 1 23 5 |
| | JULY. | 20 21 89 | 21 0 17 | | Aug. | 17 1 33 | 17 4 28 |
| | Aug | 19 10 28 | 19 8 20 | | | | |
| | SEPT | 17 28 7 | 17 17 6 | | SEPT | 15 14 17 | 15 19 31 |
| | 0 | ſ 2 17 29 | 2 18 26 | | Oct | 15 8 1 | 15 9 42 |
| | OCT. | 17 11 51 | 17 8 18 | | Nov | 18 15 45 | 13 22 43 |
| | Nov | 16 0 35 | 15 15 1 | | DEC | 18 4 29 | 13 10 38 |
| | DEC | 15 13 19 | 15 4 89 | | | | |
| 000 | | | | 225. | JAN | ∫11 17 18 | 11 21 27 |
| 228. | JAN | 14 2 8 | 18 19 55 | D.C. | 0 | 126 11 35 | 26 15 52 |
| G. | FEB | 12 14 47 | 12 12 23 | | FEB | 10 5 57 | 10 7 17 |
| 24 21 57 | MAR | ∫14 8 81 | 14 5 19 | 24 15 23 | MAR | 10 18 41 | 10 16 81 |
| 1 | 0 | 128 21 58 | 29 1 29 | | APRIL | 9 7 25 | 9 1 46 |
| | APRIL | 12 16 15 | 12 21 47 | | MAY . | 8 20 9 | 8 11 51 |
| | MAY . | 12 4 59 | 12 12 54 | | June . | 7 8 53 | 6 28 84 |
| | June . | 10 17 48 | 11 2 11 | | JULY. | 6 21 87 | 6 18 20 |
| | JULY. | 10 6 27 | 10 13 39 | | 0 | 21 15 59 | 21 16 8 |
| | Aug | 8 19 11 | 8 28 47 | | Aug | | |
| | SEPT. | 1 | | | - | 5 10 21 | 5 5 6 |
| | | K | 7 9 20 | | SEPT | 8 28 5 | 8 22 5 |
| | 0 | 22 2 17 | 21 17 58 | | Oct | 3 11 49 | 8 15 24 |
| | Oct | 6 20 39 | 6 19 4 | | Nov | 2 0 88 | 2 8 0 |
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| B. March. d. h. m. 24 21 12 Mar 29 14 45 29 28 26 APRIL 28 4 58 28 1 12 May . 27 17 42 27 8 59 June . 26 6 26 25 18 50 July . 25 19 10 25 7 6 Aug 22 20 38 22 15 29 Oct 22 9 22 22 10 10 Nov 20 22 6 21 4 44 Dec 20 10 50 20 21 48 223. A. Feb 17 12 19 18 0 23 April 17 13 47 17 17 85 May . 17 2 31 April 17 13 47 17 17 85 June . 15 15 15 June . 15 3 59 June . 15 15 15 July . 15 3 59 June . 15 3 59 June . 15 15 15 July . 15 3 59 June . 15 16 14 April 14 4 5 June . 12 6 2 | 24 26 20 48 8 25 8 7 30 9 6 89 52 24 17 1 36 28 0 29 |
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| B. March. d. h. m. Feb. 28 3 30 28 8 52 28 1 12 24 21 12 Mar. 29 16 14 29 17 2 2 14 43 8 Mar. 26 7 2 | 40 26 6 81 24 26 20 48 8 25 8 7 30 9 6 89 52 24 17 1 36 28 0 29 |
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| 24 21 12 | 8 25 8 7 30 9 6 89 52 24 17 1 36 28 0 29 |
| APRIL 28 4 58 28 1 12 MAY . 27 17 42 27 8 59 JUNE . 26 6 26 25 18 50 JULY . 25 19 10 25 7 6 AUG 24 7 54 23 22 7 SEFT 22 20 38 22 15 29 OCT 22 9 22 22 10 10 Nov 20 22 6 21 4 44 DEC 20 10 50 20 21 48 223. | 30 9 6 39 52 24 17 1 36 28 0 29 |
| MAY . 27 17 42 27 8 59 JUNE . 26 6 26 25 18 50 JULY . 25 19 10 25 7 6 AUG 24 7 54 23 22 7 SEPT 22 20 38 22 15 29 OCT 22 9 22 22 10 10 Nov 20 22 6 21 4 44 DEC 20 10 50 20 21 48 223. A. Feb 17 12 19 18 0 23 25 3 1 MAR 19 1 3 19 9 52 APRIL 17 13 47 17 17 35 MAY . 31 232 JUNE . 15 15 15 15 15 15 15 15 15 15 15 15 15 | 52 24 17 1 36 28 0 29 |
| JUNE. 26 6 26 25 18 50 JULY. 25 19 10 25 7 6 AUG. 24 7 54 23 22 7 SEPT. 22 20 38 22 15 29 OCT. 22 9 22 22 10 10 Nov. 20 22 6 21 4 44 DEC. 20 10 50 20 21 48 223. JAN. 18 23 34 19 12 28 A. Feb. 17 12 19 18 0 23 25 3 1 MAR. 19 1 3 19 9 52 APRIL 17 18 47 17 17 35 MAY. 31 29 31 17 0 28 JUNE. 15 3 59 14 16 4 ATMAY 17 16 49 14 0 4 16 6 4 | 86 28 0 29 |
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| Aug 24 7 54 23 22 7 Sept 22 20 38 22 15 29 Oct 22 9 22 22 10 10 Nov 20 22 6 21 4 44 Dec 20 10 50 20 21 48 223. Jan 18 23 34 19 12 28 A. Feb 17 12 19 18 0 23 25 3 1 Mar 19 1 3 19 9 52 April 17 18 47 17 17 35 May . {17 2 31 17 0 28} June . 15 15 15 July . 15 3 59 July . 15 3 59 July . 15 3 59 July . 15 3 59 July . 15 3 59 July . 15 3 59 July . 15 3 59 July . 17 2 81 July . 12 6 2 | 00 7 95 |
| OCT 22 9 22 22 10 10 Nov 20 22 6 21 4 44 DEC 20 10 50 20 21 48 223. Jan 18 28 34 19 12 28 A. Feb 17 12 19 18 0 28 25 3 1 Mar 19 1 3 19 9 52 April 17 13 47 17 17 35 May . {17 2 81 17 0 28 | 20 22 7 85 |
| OCT 22 9 22 22 10 10 Nov 20 22 6 21 4 44 DEC 20 10 50 20 21 48 223. Jan 18 23 34 19 12 28 A. Feb 17 12 19 18 0 23 25 3 1 Mar 19 1 3 19 9 52 April 17 13 47 17 17 35 May . {17 2 31 17 0 28} June . 15 15 15 July . 15 3 59 14 16 4 Area 11 10 49 16 6 4 | 4 20 15 26 |
| Nov 20 22 6 21 4 44 DEC 20 10 50 20 21 48 223. Jan 18 23 34 19 12 28 FEB 17 12 19 18 0 23 25 3 1 Mar 19 1 3 19 9 52 APRIL 17 13 47 17 17 35 May . \{17 2 31 17 0 28 \} \[\begin{array}{c ccccccccccccccccccccccccccccccccccc | |
| DEC 20 10 50 20 21 48 223. JAN 18 23 34 19 12 28 A. FEB 17 12 19 18 0 23 25 3 1 MAR 19 1 3 19 9 52 APRIL 17 13 47 17 17 35 MAY . \{17 2 31 17 0 28 \} \[\begin{array}{c ccccccccccccccccccccccccccccccccccc | |
| 223. Jan 18 28 34 19 12 28 Feb 17 12 19 18 0 23 Mar 19 1 3 19 9 52 April 17 18 47 17 17 35 May | |
| 223. Jan 18 28 34 19 12 28 Feb 17 12 19 18 0 23 Mar 19 1 3 19 9 52 April 17 18 47 17 17 35 May . \ \begin{array}{c ccccccccccccccccccccccccccccccccccc | |
| A. Feb. 17 12 19 18 0 28 220. Jan. 15 14 4 4 5 4 4 5 July 15 3 59 14 16 4 4 5 4 17 18 18 18 18 18 18 18 18 18 18 18 18 18 | 0 16 18 56 |
| 25 3 1 Mar. 19 1 3 19 9 52 220. Jan. 15 14 4 April 17 18 47 17 17 35 D. Feb. 14 8 2 May . {17 2 81 17 0 28 24 20 47 Mar. 15 16 1 2 32 June . 15 15 15 15 15 7 85 July . 15 3 59 14 16 4 June . 12 6 2 | 20 20 00 |
| APRIL 17 13 47 17 17 35 D. FEB. 14 8 2 MAY . (17 2 81 17 0 28 24 20 47 MAR. 15 16 1 O (81 20 58 | _ |
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| O \ \{ 81 20 58 \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | |
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| DEC. 9 19 89 10 0 1 DEC. 6 10 48 | 6 1 56 |
| 222. JAN 8 8 23 8 18 31 219. JAN 4 23 88 | 3 4 16 15 |
| G. FEB. 6 21 7 7 10 36 C. FEB. 8 12 17 | 1 |
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| JULY . 4 12 47 4 7 15 _ (1 8 57 | 1 |
| AUG. 3 1 31 2 15 3 JULY . 30 16 41 | |
| SEPT. 1 14 15 1 0 53 Arra 29 5 05 | 29 8 84 |
| Ост [1 2 59 [50 13 30]] (12 28 47 | |
| [30 15 43] 30 5 5 SEPT. SEPT. 12 25 47 | |
| O (14 10 5 14 15 9) Oct 27 6 50 | 27 18 28 |
| Nov (29 4 27 28 23 8 Nov. 95 10 27 | 27 4 88 |
| DEC. 28 17 11 28 18 27 7 | 25 15 20 |
| DEC 25 8 21 | 25 2 51 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-------------------------------------|---|---|--|---|---|---|---|
| B.C. 218. B. March. d. h. m. 25 8 5 | JAN FEB O MAR APRIL MAY . JULY . AUG O SEPT OCT NOV | d. h. m. 23 21 6 22 9 50 { 9 4 12 23 22 31 22 11 18 22 0 2 20 12 46 20 1 30 18 14 14 { 2 8 36 17 2 58 16 15 42 15 4 26 | d. h. m. 23 15 8 22 4 17 9 16 53 23 18 24 22 9 24 22 0 49 20 16 3 20 6 32 18 19 55 1 18 31 17 8 17 16 19 54 15 7 7 14 18 2 | B.C. 215. E. March. d. h. m. 25 1 31 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC. | d. h. m. \[5 17 54 \\ 20 12 16 \\ 19 1 0 \\ 20 13 44 \\ 19 2 28 \\ 18 15 12 \\ 17 3 56 \\ \[1 22 18 \\ 16 16 40 \\ 15 5 24 \\ 13 18 8 \\ 13 6 52 \\ 11 19 36 \\ (11 8 20 \\ (11 8 20 \\ (11 8 20 \) | d. h. m. 5 11 33 20 22 25 19 8 32 20 17 3 19 0 41 18 8 24 16 17 12 2 5 56 16 4 10 14 17 50 13 10 15 13 4 35 11 28 34 11 17 39 |
| 217. A.G. 24 18 54 | DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 14 17 10 13 5 54 11 18 38 12 7 22 10 20 6 10 8 50 8 21 84 8 10 18 { 6 23 2 21 17 24 5 11 46 5 0 30 3 13 14 3 1 58 | 14 18 2 13 4 40 11 15 12 12 2 0 10 13 33 10 2 24 8 16 41 8 8 9 7 0 6 21 7 16 5 15 50 5 6 47 3 20 38 3 9 14 | 214. b. 25 7 20 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT | 11 8 20 26 2 42 9 21 4 8 9 48 9 22 32 8 11 16 8 0 0 6 12 44 21 7 6 6 1 28 4 14 12 3 2 56 2 15 40 1 4 24 30 17 8 | 25 19 36 10 9 38 8 22 52 10 9 28 8 17 44 8 0 48 6 7 86 21 12 57 5 15 15 4 0 50 2 18 12 { 2 4 40 81 22 45 |
| 216. F. | JAN FEB | \begin{cases} 1 & 14 & 43 \\ 81 & 3 & 27 \\ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 1 20 35 31 6 45 1 16 2 | 213. | O DEC | \$\begin{pmatrix} 15 & 11 & 30 \\ 30 & 5 & 52 \\ 28 & 18 & 37 \end{pmatrix}\$ | 15 9 87 |
| 24 19 43 | MAR APRIL MAY. JUNE. O JULY. AUG SEPT OCT NOV DEC | \(\)(81\) 4 55 \(29\) 17 89 \(29\) 6 23 \(27\) 19 7 \(\)(12\) 18 29 \(\)(27\) 7 51 \(25\) 20 35 \(24\) 9 19 \(23\) 22 8 \(22\) 10 47 \(21\) 28 81 | 81 0 56 29 10 16 28 20 54 27 9 88 12 16 5 27 0 24 25 17 2 24 10 38 24 3 58 22 20 1 22 10 17 | C.B. 24 18 9 | FEB | 27 7 21 27 20 5 26 8 49 25 21 83 24 10 17 28 28 1 22 11 45 21 0 29 20 13 18 19 1 57 18 14 41 | 26 0 55 24 7 88 28 14 47 21 28 85 20 10 50 20 1 0 18 17 56 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon.)(O Full Ecl. |
|----------------------------|---|--|--|----------------------------|---|--|--|
| Vernal | JAN FEB MAR APRIL O MAY JUNE O CT O NOV DEC MAR APRIL O MAY . JUNE . JUNE . | Moon. (O Full Ect.) d. h. m. 17 3 26 15 16 10 17 4 54 {15 17 38 30 12 0 15 6 22 13 19 6 13 7 50 11 20 34 10 9 18 { 9 22 2 24 16 24 8 10 46 7 23 30 6 12 14 5 0 58 6 13 42 { 5 2 26 19 20 48 4 15 10 8 3 54 | Moon. (O Fall Bel.) d. h. m. 17 7 59 16 2 1 17 17 41 16 6 25 30 4 16 15 16 26 14 0 32 13 7 48 11 15 20 10 0 0 9 10 34 24 23 29 7 23 28 7 14 41 6 7 46 5 1 47 6 19 31 5 11 50 19 16 39 5 1 55 3.18 35 | Vernal | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC O MAR APRIL MAY . JUNE . | Moon. (O Full Ecl. d. h. m. 14 18 35 13 7 20 13 20 4 12 8 48 11 21 32 10 10 16 9 23 0 8 11 44 7. 0 23 6 13 12 5 1 56 4 14 40 3 3 24 { 1 16 8 16 10 30 8 4 52 1 17 86 { 1 6 20 80 19 4 29 7 48 | Moon. d. h. m. 14 18 9 18 1 85 13 14 55 12 5 18 11 20 20 10 11 45 10 2 48 8 16 58 7 6 7 6 18 22 5 5 58 4 17 4 8 8 47 1 14 11 16 22 39 8 0 32 {1 11 20 80 28 16 80 12 41 29 8 81 |
| 210. F. 25 6 35 | JULY . AUG SEPT O OCT NOV DEC JAN FEB MAR . O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | 2 16 88 { 1 5 22 80 18 6 29 6 50 { 14 1 12 28 19 34 27 8 18 26 21 2 25 9 47 23 22 31 25 11 15 { 9 5 37 23 23 59 28 12 43 22 1 27 21 14 11 20 2 55 18 15 39 { 3 10 1 18 4 23 16 17 7 16 5 51 | 2 28 19 1 7 56 30 16 25 29 1 34 14 2 8 28 11 57 26 23 47 26 18 9 25 3 57 28 19 51 25 12 16 9 9 17 24 4 25 28 19 29 22 9 0 21 20 52 20 7 81 18 17 83 8 1 84 18 3 46 16 14 20 16 1 27 | 207. B. 25 0 2 | JULY. O AUG SEPT OCT. NOV DEC JAN O FEB MAR APRIL MAY JUNE JULY O AUG SEPT OCT NOV DEC | 28 20 32 112 14 54 27 9 16 25 22 0 25 10 44 23 28 28 23 12 12 22 0 57 5 19 19 20 13 41 22 2 25 20 15 9 20 3 58 18 16 37 18 5 21 { 1 23 48 16 18 5 15 6 49 14 19 38 18 8 17 12 21 1 | 28 19 29 12 6 55 27 11 39 26 8 21 25 18 8 24 7 28 23 19 29 22 6 9 5 28 24 20 15 39 22 0 26 20 9 12 19 18 58 18 6 21 17 20 5 1 28 47 16 12 0 15 5 25 14 23 13 18 16 18 18 7 42 |

| | 1 | | | | | | |
|----------------------------|--------|----------------|--|----------------------------|--------|------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month, | Mean New Moon. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) |
| B.C. 206. | | d. h. m. | d. h. m. | B.C. 203. | | d. h. m. | d. h. m. |
| March. | JAN | 11 9 46 | 11 20 56 | D. | JAN | 8 0 55 | 8 2 18 |
| d. h. m. | FEB | 9 22 30 | 10 7 55 | March. $d. h. m.$ | 773 | 6 13 39 | 6 20 59 |
| 25 5 50 | MAR. | 11 11 14 | 11 16 59 | 24 23 17 | MAR. | 8 2 23 | 8 13 51 |
| | APRIL | 9 23 58 | 10 0 47 | | APRIL | 6 15 7 | |
| | MAY. | 9 12 42 | 9 8 11 | | MAY . | (6 3 51 | 7 3 59 6 15 17 |
| | JUNE . | 8 1 26 | 7 16 11 | | 0 | 20 22 13 | 20 13 30 |
| | JULY. | 7 14 10 | 7 1 54 | | JUNE. | 4 16 35 | 1 |
| | Aug | 6 2 54 | 5 14 12 | | July. | 4 5 19 | |
| | SEPT | 4 15 38 | 4 5 22 | | Aug. | 2 18 3 | |
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| | Nov | 2 17 6 | 2 18 2 | | SEPT | 30 19 31 | |
| | - | (2 5 50 | 2 12 53 | | Ост. | 1 | 30 9 13 |
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| 005 | - | · · · · | 1 6 6 | | | 28 20 59 | 28.11 1 |
| 205. G.F. | JAN | 30 7 18 | 30 20 43 | | DEC | 28 9 43 | 28 3 6 |
| 0.7. | FEB | 28 20 2 | 29 8 27 | | | | |
| 24 11 39 | MAR. | 29 8 46 | 29 17 40 | 202. | JAN | 26 22 28 | 26 20 36 |
| | APRIL | 27 21 30 | 28 1 10 | C. | FEB | 25 11 12 | 25 14 24 |
| | MAY. | 27 10 14 | 27 7 58 | 25 5 6 | MAR | 26 23 56 | 27 7 23 |
| | 0 | (11 4 36 | 11 9 4 | | APRIL | 25 12 40 | 25 22 34 |
| | JUNE. | 25 22 58 | 25 14 57 | | MAY . | 25 1 24 | 25 11 28 |
| | JULY. | 25 11 42 | 24 23 29 | | JUNE . | 23 14 8 | 23 22 13 |
| | Aug. | 24 0 26 | 28 10 26 | | JULY. | 28 2 52 | 23 7 28 |
| | SEPT. | 22 13 10 | 22 0 25 | | Aug | 21 15 36 | 21 16 8 |
| | Oct. | 22 1 54 | 21 17 22 | | SEPT | 20 4 20 | 20 1 4 |
| | Nov. | 20 14 38 | 20 12 26 | | Oct | 19 17 4 | 19 10 57 |
| | 0 | (5 9 0 | 5 8 89 | | Nov | 18 5 48 | 17 22 4 |
| | DEC | 20 8 22 | 20 8 0 | | DEC | 17 18 32 | 17 10 36 |
| 1 | | (=0 0 22 | 20 0 0 | | | | |
| 204. | JAN | 18 16 7 | 19 2 28 | 201. | JAN | 16 7 17 | 16 0 31 |
| E. | FEB | 17 4 51 | 17 18 25 | B.A. | FEB | 14 20 1 | 14 15 39 |
| 24 17 28 | MAR | 18 17 35 | 19 7 17 | 24 10 55 | MAR. | (15 8 45 | 15 7 35 |
| | APRIL | 17 6 19 | 17 17 17 | | 0 | 30 8 7 | 30 9 24 |
| | MAY. | (16 19 8 | 17 1 9 | | APRIL | 18 21 29 | 13 23 46 |
| | 0 | 81 18 25 | 81 9 46 | | MAY. | 18 10 13 | 13 15 23 |
| | JUNE . | 15 7 47 | 15 7 57 | | June . | 11 22 57 | 12 5 48 |
| | JULY . | 14 20 81 | 14 14 50 | | JULY. | 11 11 41 | 11 18 38 |
| | Aug. | 18 9 15 | 12 22 49 | | Aug. | 10 0 25 | 10 6 5 |
| | SEPT. | 11 21 59 | 11 8 53 | | SEPT. | (818 9 | 8 16 39 |
| * | Oct. | 11 10 48 | 10 21 38 | | 0 | 28 7 81 | 22 20 40 |
| | Nov. | 9 28 27 | 9 13 15 | | Oct | 8 1 53 | 8 2 58 |
| | 0 | 24 17 49 | | | Nov. | 6.14.87 | 6 13 25 |
| | DEC. | 9 12 11 | $\begin{bmatrix} 25 & 0 & 1 \\ 9 & 7 & 13 \end{bmatrix}$ | | DEC. | 6 8 21 | 6 0 18 |
| | | 0 12 11 | 0 1 19 | | JEU. | 0. 0 21 | 0 0 19 |
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| Mean Vernal Equinox. Month. Mean New Moon. Mean Now Moon. Mean New Moon. Mean N | | | | | JERUSALEM | CIVIL TIM | . Б. | | |
|---|---|----------|--------|--------------|-----------|-----------|--------|-----------|------------|
| 200. G. March. A. h. m. 24 16 48 MAR 4 17 83 4 11 56 O | | Vernal | Month. | Moon. | Moon. | Vernal | Month. | Moon. | Moon. |
| March. Ad. Am. A | | 200. | TAN | | | | | | |
| 24 16 48 | | | | | | 11 | JAN. O | 1 | i t |
| APRIL 3 6 17 3 1 27 2 16 10 0 24 10 10 10 MAR. 21 16 44 60 21 27 81 0 54 | 1 | | i | 14 | 1 | | | (81 19 5 | |
| MAY . 2 19 1 2 16 0 June . \begin{cases} | 1 | | 1 | | | | FEB | (1 9 1 | |
| JUNE . \$\ | | | | 1 | | | MAR | 1.7 | |
| JULY . 30 9 18 30 18 28 Aug 28 21 57 29 8 26 O | | | JUNE . | 13 | | | 1 ' ' | | |
| O Sept. C C C C C C C C C | | | JULY. | | | | | 1 | 1 |
| Sept \(\begin{array}{c c c c c c c c c c c c c c c c c c c | 1 | | Aug | 1 | 1 | | 0 | £12 6 1 | 12 18 6 |
| Oct 26 23 25 27 4 83 Nov 25 12 9 25 16 1 Dec 25 0 53 25 2 56 199. Jan 23 13 38 28 18 21 F. Feb 22 2 22 21 28 25 Mar 23 15 6 23 9 39 April 22 3 50 21 20 41 May 21 16 34 21 9 7 June . 20 5 18 19 23 13 July . 19 18 2 19 14 47 Aug 18 6 46 18 7 7 O { 2 1 8 1 15 19 Sept 16 19 30 16 23 25 Oct 16 8 14 16 14 57 Nov 14 20 58 15 5 15 Dec 14 9 42 14 18 4 198. Feb 11 11 11 11 11 15 15 Dec 14 9 42 14 18 4 198. Feb 11 11 23 9 11 8 32 May . 11 1 23 9 11 8 32 May . 11 1 23 10 17 27 June . 9 14 7 9 3 48 July . 9 14 7 9 3 48 July . 9 2 51 8 16 19 O (23 21 13 23 28 41 Aug 7 15 35 7 7 16 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Dec 3 18 38 28 18 21 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Dec 3 18 81 18 59 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Dec 3 18 81 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Dec 3 18 81 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Dec 3 18 81 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Nov 4 5 67 Nov 6 22 15 17 Nov 22 8 19 Sept 15 10 25 Sept 16 11 12 21 12 14 Sept 17 16 8 22 17 15 Sept 18 17 32 19 6 58 Dec 14 9 42 14 18 4 Sept 18 17 32 19 6 58 Dec 14 9 42 14 18 4 Sept 18 17 32 19 6 58 Dec 14 9 42 14 18 4 Sept 18 17 32 19 6 58 Sept 18 17 32 19 6 58 Sept 18 10 10 17 27 June . 9 14 7 9 8 48 Juny . 19 18 2 27 18 5 18 11 Nov 4 5 47 June . 6 5 17 6 8 19 Juny . 6 6 5 17 6 8 19 Juny . 7 16 88 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Nov 8 18 18 18 50 Oct 5 17 8 5 18 11 Nov 4 5 47 Nov 6 29 29 2 7 88 Sept 6 4 19 6 0 12 Oct 5 17 8 5 18 11 Nov 4 5 47 Nov 6 4 6 5 17 Nov 6 6 5 17 Sept 18 10 20 27 Sept 18 10 25 Sept 18 12 20 57 Sept 18 10 25 Sept 18 12 20 57 Sept 18 10 25 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 12 20 57 Sept 18 | ŀ | | | 14 | | | July. | 1 | 1 |
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| B.C. 194. | | d. h. m. | d. h. m. | B.C. 191, | | d. h. m. | d. h. m. |
| March. | JAN | 28 11 9 | 28 15 37 | C. | JAN | 25 2 19 | 24 21 38 |
| d. h. m. | FEB | 26 23 53 | 27 9 24 | March. d. h. m. | FEB | 23 15 3 | 23 9 30 |
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| | MAY . | 26 14 5 | 26 23 36 | | June. | 21 17 59 | 21 18 11 |
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| | July. | 24 15 33 | 24 15 26 | | Aug. | 19 19 27 | |
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| 193. | JAN | 17 19 58 | 17 15 43 | 190. в. | JAN | 14 11 7 | 14 12 33 |
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| | Aug | 11 13 6 | 11 15 42 | | Aug | 9 4 16 | 9 2 20 |
| | SEPT | 10 1 50 | 10 0 39 | | 0. | 28 22 38 | 23 14 54 |
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| | DEC | 7 16 2 | 7 8 34 | | DEC | 5 7 12 | 5 16 14 |
| 192. | JAN | 6 4 46 | 5 21 36 | 189, | JAN | 8 19 56 | 4 4 17 |
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| 24 15 14 | MAR | 6 6 15 | 6 8 12 | | 0 | {17 B 2 | 17 6 48 |
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| | Nov | 27 0 51 | 26 23 19 | | Nov | 23 16 0 | 24 0 36 |
| | DEC | 26 18 85 | 26 10 19 | | DEC | 23 4 44 | 28 16 13 |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|------------------------------------|----------------------------|--------------|------------------------------------|------------------------------------|
| B.C. 188. | | d. h. m. | d. h. m. | B.C. 185. | | d. h. m. | d. h. m. |
| F. | JAN | 21 17 29 | 22 5 26 | С.В. | JAN | 19 8 39 | 19 9 54 |
| | 0 | (5 11 51 | 5 7 37 | March. | FEB | 17 21 23 | 18 4 26 |
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| | JUNE. | 18 9 9 | 17 23 24 | { | JUNE . | 15 0 19 | 15 7 32 |
| | JULY. | 17 21 53 | 17 9 5 | | JULY. | 14 13 3 | 14 15 27 |
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| | Aug | [16 10 37] | 15 21 27 | | SEPT | 11 14 31 | 11 7 46 |
|] | SEPT | 14 23 21 | 14 12 48 | | Oct | 11 3 15 | 10 17 45 |
| | Oct | 14 12 5 | 14 6 42 | | Nov. | (9 15 59 | 9 5 38 |
| | Nov | 13 0 49 | 13 1 58 | | 0 | 24 10 21 | 24 19 44 |
| | DEC | 12 13 33 | 12 20 59 | | DEC | 9 4 43 | 8 19 32 |
| 187. | JAN. | 11 2 18 | 11 14 17 | | | | |
| E. | FEB. | 9 15 2 | 10 4 49 | 184. | JAN. | 7 17 28 | 7 11 16 |
| 24 20 18 | MAR. | 11 3 46 | 11 16 23 | Α. | FEB | 6 6 12 | 6 4 14 |
| | APRIL | 9 16 30 | 10 1 23 | 24 13 45 | Mar. | 7 18 56 | 7 21 34 |
| | MAY. | 9 5 14 | 9 8 41 | | APRIL | 6 7 40 | 6 14 13 |
| | JUNE . | 7 17 58 | 7 15 19 | | MAY. | 5 20 24 | 6 5 18 |
| | JULY . | 7 6 42 | 6 22 24 | | JUNE. | 4 9 8 | 4 18 19 |
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| 186. | JAN. | 29 23 50 | 30 10 12 | | | | |
| D. | FEB | 28 12 34 | | 183. | JAN | 26 15 0 | 26 8 41 |
| 2. 2. 5 | 35- | (| 1 2 2 | G. | FEB | 25 3 44 | 24 23 12 |
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| | JUNE . | 26 15 30 | 26 15 26 | | JUNE . | 23 6 40 | 23 12 26 |
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| | ATG | 24 16 58 | 24 6 45 | | Aug | 21 8 8 | 21 13 41 |
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|---|--|---|---|--|---|--|---|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. (O Full Ecl.) |
| B.C. 182. F. March. d. h. m. 25 1 22 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov DEC | d. h. m. 15 28 49 14 12 38 {16 1 17 80 19 39 14 14 1 14 2 45 12 15 29 12 4 18 10 16 57 { 9 5 41 24 0 8 8 18 25 7 7 9 6 19 53 | d. h. m. 15 20 15 14 7 33 15 19 30 31 8 7 14 8 27 13 22 35 12 13 42 12 5 13 10 20 31 9 11 5 23 10 26 9 0 39 7 13 16 7 0 58 | B.C. 179. n. March. d. h. m. 24 18 49 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT 'NOV DEC | d. h. m. {12 14 59 27 9 21 11 8 48 12 16 27 11 5 11 10 17 55 9 6 89 { 8 19 28 23 18 45 7 8 7 5 20 51 5 9 85 8 22 19 8 11 8 | d. h. m. 13 3 22 27 3 38 11 15 15 13 0 49 11 8 40 10 15 42 8 22 58 8 7 35 23 20 21 6 18 33 5 8 19 5 1 18 3 20 11 3 15 39 |
| 181. E.D. 24 7 11 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV | 5 8 88 8 21 22 4 10 6 19 4 28 2 22 50 2 11 84 1 0 18 2 0 18 2 80 1 46 28 14 80 12 8 52 27 8 14 26 15 58 25 4 42 24 17 26 | 5 11 49 8 21 54 4 7 80 19 17 15 2 17 12 { 2 3 44 81 15 50 80 5 48 29 21 80 28 14 18 11 28 80 27 7 5 26 28 10 25 18 58 25 2 51 | 178. A. 25 0 38 | JAN. O FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | 1 23 48 16 18 10 31 12 32 2 1 16 81 14 0 80 2 44 29 15 28 28 4 12 (12 22 84 (27 16 56 26 5 40 24 18 24 24 7 8 22 19 52 22 8 86 | 2 10 0 16 12 47 1 1 57 2 14 54 { 1 1 0 30 8 57 29 15 44 27 22 28 18 2 19 27 6 15 25 16 6 24 4 47 28 20 29 22 14 45 22 10 11 |
| 18 O. c. 24 18 O | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 28 6 10 21 18 54 28 7 88 21 20 22 21 9 6 19 21 50 19 10 34 17 28 18 16 12 2 16 0 46 14 18 80 14 2 14 | 28 14 1 21 28 85 28 8 2 21 16 2 21 0 85 19 10 43 18 28 10 17 14 15 16 7 29 16 1 54 14 20 8 14 12 58 | 177. G.F. 24 6 27 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 6 2 58 20 21 20 19 10 4 19 22 48 18 11 82 18 0 16 16 18 0 16 1 44 14 14 28 13 3 12 12 15 56 11 4 40 10 17 24 | 6 8 24 21 5 18 19 22 18 20 12 30 18 26 42 18 8 26 16 15 44 15 22 40 14 6 21 12 15 89 12 8 18 10 17 84 10 10 17 |

| March. d. h. m. 24 12 15 A J J A | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT | d. h. m. 9. 6 9 7 18 58 9 7 87 7 20 21 { 7 9 5 22 3 27 5 21 49 5 10 38 3 28 17 2 12 1 | d. h. m. 9 4 34 7 23 8 9 16 37 8 7 54 7 20 33 21 18 19 6 6 45 5 15 18 3 23 12 | B.C. 173. B.A. March. d. h. m. 24 5 42 | Jan Feb Mar April. May . June . | d. h. m. 6 21 19 5 10 8 5 22 47 4 11 81 4 0 15 2 12 59 | d. h. m. 6 19 7 5 6 2 5 17 20 4 5 26 8 18 44 2 9 18 |
|--|--|--|---|---|---------------------------------|--|---|
| E. March. d. h. m. E. 24 12 15 M | Feb Mar April May . O June . July . Aug | 9. 6 9 7 18 58 9 7 37 7 20 21 { 7 9 5 { 22 3 27 5 21 49 5 10 38 3 28 17 | 9 4 34 7 23 8 9 16 37 8 7 54 7 20 33 21 18 19 6 6 45 5 15 18 | B.A. March. d. h. m. | FEB MAR APRIL MAY . | 5 10 8 5 22 47 4 11 81 4 0 15 2 12 59 | 5 6 2 5 17 20 4 5 26 8 18 44 |
| March. d. h. m. E 24 12 15 A A A A S | Feb Mar April May . O June . July . Aug | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 7 28 8 9 16 37 8 7 54 7 20 33 21 18 19 6 6 45 5 15 18 | d. h. m. | FEB MAR APRIL MAY . | 5 10 8 5 22 47 4 11 81 4 0 15 2 12 59 | 5 6 2 5 17 20 4 5 26 8 18 44 |
| 24 12 15 M A J J J A S | MAR APRIL MAY. O JUNE. JULY. AUG | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 9 16 37 8 7 54 7 20 38 21 18 19 6 6 45 5 15 18 | | MAR APRIL MAY. | 5 22 47 4 11 81 4 0 15 2 12 59 | 5 17 20 4 5 26 8 18 44 |
| J J A S | APRIL MAY . O JUNE . JULY . AUG | 7 20 21 { 7 9 5 { 22 3 27 5 21 49 5 10 88 3 23 17 | 8 7 54 7 20 33 21 18 19 6 6 45 5 15 18 | 24 5 42 | APRIL. | 4 11 31 4 0 15 2 12 59 | 4 5 26 8 18 44 |
| J J A S | May . O JUNE . JULY . Aug | $ \begin{cases} 7 & 9 & 5 \\ 22 & 3 & 27 \\ 5 & 21 & 49 \\ 5 & 10 & 33 \\ 3 & 23 & 17 \end{cases} $ | 7 20 33 21 18 19 6 6 45 5 15 18 | | May . | 4 0 15 2 12 59 | 8 18 44 |
| J J A | O June . July . Aug Sept | 22 3 27 5 21 49 5 10 33 3 23 17 | 21 18 19 6 6 45 5 15 18 | | | 2 12 59 | |
| J A S | June . July . Aug Sept | 5 21 49 5 10 33 3 23 17 | 6 6 45 5 15 18 | | JUNE. | | 2 0 10 |
| J A S | JULY . AUG SEPT | 5 10 33 3 23 17 | 5 15 18 | | | (2 1 43 | 2 0 48 |
| A S | Aug Sept | 3 23 17 | | | July . | J | |
| s | SEPT | 1 | 3 23 12 | | | (81 14 27 | 81 16 28 |
| | | 2 12 1 | 0 = 00 | | Aug | 80 8 11 | 80 7 87 |
| C | Ост | | 2 7 26 | | SEPT | 28 15 55 | 28 22 0 |
| 1 - | | 2 0 45 | 1 16 48 | | Oct | 28 4 39 | 28 11 22 |
| | | (31 13 29 | 31 3 47 | | Nov. | 26 17 28 | 26 28 89 |
| 1 | ٥ | §15 7 51 | 15 16 2 | | DEC | 26 6 7 | 26 10 56 |
| | Nov | (30 2 13 | 29 16 39 | | | | |
| L | DEC | 29 14 57 | 29 7 21 | 172. | JAN | 24 18 51 | 24 21 16 |
| 175. Ј | TAN | 28 3 41 | 27 23 33 | a. | FEB | 28 7 85 | 28 6 50 |
| _ 1 | EB. | 26 16 25 | 26 16 33 | | 0 | (10 1 57 | 10 18 27 |
| | MAR. | 28 5 9 | 28 9 27 | 24 11 81 | MAR | 24 20 19 | 24 16 9 |
| | APRIL | 26 17 53 | 27 1 19 | | APRIL | 28 9 8 | 28 1 55 |
| | 0, | (11 12 15 | 11 7 31 | | MAY . | 22 21 47 | 22 12 58 |
| | MAY . | 26 6 37 | 26 15 25 | | June . | 21 10 81 | 21 1 52 |
| | JUNE. | 24 19 21 | 25 3 33 | | JULY. | 20 28 15 | 20 16 47 |
| 1 | JULY. | 24 8 5 | 24 14 1 | | Aug. | 19 11 59 | 19 9 15 |
| 1 | Aug | 22 20 49 | 22 23 34 | | 0 | (8 6 21 | 2 28 0 |
| 1 - | SEPT | 21 9 33 | 21 9 0 | | SEPT | 18 0 48 | 18 2 25 |
| 1 | Ост | 20 22 17 | 20 18 55 | | Ocr | 17 18 27 | 17 19 15 |
| | 0 | (4 16 39 | 4 17 48 | | Nov. | 16 2 11 | 16 10 58 |
| 1 | Nov | 19 11 1 | 19 5 38 | | DEC | 15 14 55 | 16 0 57 |
| | DEC | 18 23 45 | 18 17 20 | | | | |
| | | | | 171. | JAN | 14 8 40 | 14 18 0 |
| | Jan | 17 12 30 | 17 6 2 | ¥. | FEB | (12 16 24 | 12 28 12 |
| | Feb Mar | 16 1 14 | 15 19 44 | | О . | 27 10 46 | 27 14 5 |
| | | 17 13 58 | 17 10 26 | 24 17 20 | MAR. | | 14 7 56 |
| | APRIL | 16 2 42 | 16 1 51 | 42 11 20 | APRIL | 14 5 8 12 17 52 | |
| , , | O Mar | (30 21 4 | ∫ 1 0 31 | | MAY . | | |
| | MAY . | 15 15 26 | 15 17 27 | | | 12 6 86 | 11 28 50 |
| | JUNE. JULY. | 14 4 10 | 14 8 35 | | JUNE. JULY. | 10 19 20 10 8 4 | 10 8 56 |
| 1 | Aug. | 13 16 54 12 5 38 | 13 22 41 | | | | 9 20 6 |
| 1 | SEPT. | 0 00 | 12 11 32 | | Aug | 8 20 48 | 8 9 54 |
| 1 . | Oct. | 10 18 22 | 10 23 20 | | SEPT | (28 15 10 | 28 15 85 |
| | 0 | 17 | 10 10 81 | | OCT. | 7 9 82 | 7 2 15 |
| ۱, | Nov | 8 19 50 | 24 17 9 | | Nov. | 6 22 16 | 6 20 26 |
| | Dec. | | 8 21 24 | | DEC. | 5 11 0 | 5 15 8 |
| | - EU | 8 8 34 | 8 8 16 | | DEU. | 4 28 44 | 5 8 54 |

| Mean Vernal | Month | Mean New | | Mean | | Mean Nev | Thurs M. |
|----------------|--------|---------------------|----------------|--------------|--------|-----------|-----------------------------|
| Equinox. | Month. | (O Full Ecl. |) (O Full Ecl. | 17 mm 3 | Month. | Moon. | True New Moon. O Full Ecl. |
| B.C. 170. | _ | d. h. m. | | B.C. 167. | | d. h. m | d. h. m. |
| E. | JAN | 8 12 29 | 4 0 40 | March. | JAN. | 29 16 29 | 3 29 17 43 |
| March. | FEB | 5 2 1 13 | 2 18 47 | d. h. m. | FEB. | 1 | |
| d. h. m. | | (16 19 85 | 16 15 17 | 24 16 85 | MAR. | 29 17 5 | |
| 24 28 8 | MAR. | 8 18 57 | 4 0 21 | | APRIL | 28 6 8 | _ |
| | APRIL | 2 2 41 | 2 8 49 | | MAY . | 27 19 19 | |
| | MAY . | § 1 15 25 | 1 15 59 | | 0 | (11 18 4 | |
| | | (81 4 9 | 80 22 56 | | JUNE . | 26 8 | |
| | JUNE . | 29 16 58 | 29 6 41 | | JULY . | 25 20 47 | |
| | JULY. | 29 5 87 | 28 16 28 | | Aug | 24 9 81 | |
| } | 0 | S12 28 59 | 18 5 84 | | SEPT | 22 22 15 | , |
| | Aug | 27 18 21 | 27 4 51 | | Oct. | 22 10 59 | 1 |
| | SEPT | 26 7 5 | 25 20 22 | | Nov. | 20 28 48 | |
| ļ | Our | 25 19 49 | 25 14 29 | | 0 | (5 18 5 | |
| | Nov. | 24 8 83 | 24 9 55 | | DEC. | 20 12 27 | |
| | DEC | 28 21 17 | 24 5 4 | | | | 20 9 2 |
| 169. | JAN. | 22 10 1 | 00 00 00 | 166. | T | 10 1 11 | |
| D.C. | FEB. | 20 22 45 | 22 22 20 | G. | JAN | 19 1 11 | 18 19 19 |
| 24 4 57 | MAR. | 1 | 21 12 44 | 24 22 24 | FEB. | 17 18 55 | 17 11 45 |
| | APRIL | 21 11 29 20 0 18 | 22 0 7 | 24 22 24 | MAR. | 19 2 89 | 19 4 85 |
| | MAY. | | 20 8 56 | | APRIL | 17 15 28 | 17 20 56 |
| | JUNE. | 19 12 57 | 19 16 8 | | MAY. | 17 4 7 | 17 11 56 |
| | July. | 18 1 41 17 14 25 | 17 22 45 | | JUNE . | 15 16 51 | 16 1 8 |
| | Aug. | 1 | 17 5 55 | | JULY. | 15 5 85 | 15 12 83 |
| | SEPT. | - " | 15 14 48 | | Aug. | 18 18 19 | 18 22 48 |
| | | 14 15 58 14 4 87 | 14 2 0 | | SEPT | 12 7 8 | 12 8 22 |
| | Oct | | 18 16 17 | | Oct. | 11 19 47 | 11 18 11 |
| | | 12 17 21 | 12 9 28 | | Nov. | 10 8 81 | 10 4 86 |
| | DEC | 12 6 5 | 12 4 28 | | DEC | 9 21 15 | 9 15 49 |
| | | (27 0 27 | 27 2 82 | | | | |
| 168. | JAN | 10 18 50 | 10 28 46 | 165. F.E. | JAN | 8 10 0 | 8 8 52 |
| | FEB | 9 7 84 | 9 17 58 | | FEB | 6 22 44 | 6 16 48 |
| 24 10 46 | MAR. | 10 20 18 | 11 9 80 | 24 4 18 | MAR. | 7 11 28 | 7 6 41 |
| | APRIL | 9 9 2 | 9 22 8 | | APRIL | 5 6 0 12 | 5 21 81 |
| į | MAY . | 8 21 46 | 9 7 58 | | 0 | 20 18 84 | 21 0 47 |
| | JUNE. | 5 7 10 80 | 7 15 58 | | MAY. | 5 12 56 | 5 12 56 |
| | 0 | 22 4 52 | 21 22 45 | | JUNE . | 4 1 40 | 4 4 22 |
| 1 | July. | 6 28 14 | 6 22 57 | 1 | JULY. | 8 14 24 | 8 19 7 |
| | Aug | 5 11 58 | 5 6 16 | 1 | A.va | § 2 8 8 | 28 8 60 |
| | SEPT | 4 0 42 | 8 14 48 | | | (81 15 52 | 81 21 25 |
| | Ocr | 8 18 26 | 8 1 20 | | SEPT | 80 4 86 | 80 9 8 |
| | Nov. | 2 2 10 | 1 14 19 | | 0 | 14 22 58 | 14 12 14 |
| | _ | 1 14 54 | 1 5 49 | | Ocr | 29 17 20 | 29 20 21 |
| | DEC. O | 1 | 16 17 48 | | Nov | 28 6 4 | 28 7 20 |
| 1 | | 81 8 88 | 80 28 17 | - | DEC | 27. 18 48 | 27 18 8 |
| | | | | | | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|---|---------------------------------------|------------------------------------|------------------------------------|
| B.C. 164. | | d. h. m. | d. h. m. | B.O | · · · · · · · · · · · · · · · · · · · | d. h. m. | d. h. m. |
| D. | JAN | 26 7 33 | 26 4 50 | B.C. 161. | JAN | 23 22 42 | 24 11 44 |
| March. d. h. m. | FEB | 24 20 17 | 24 15 37 | A.G. | 0 | (7174 | 7 11 32 |
| 24 10 1 | MAR | 26 9 1 | 26 2 57 | March. | FEB | 22 11 26 | 22 23 26 |
| | 0 | (10 8 23 | 10 15 47 | d. h. m. 24 3 28 | MAR. | 23 0 10 | 23 8 43 |
| | APRIL | 24 21 45 | 24 15 23 | | APRIL | 21 12 54 | 21 16 17 |
| | MAY . | 24 10 29 | 24 5 10 | | MAY . | 21 1 38 | 20 23 8 |
| 1 | JUNE . | 22 23 13 | 22 20 10 | | JUNE . | 19 14 22 | 19 6 18 |
| 1 | JULY. | 22 11 57 | 22 11 54 | | JULY. | 19 3 6 | 18 14 54 |
|] | Aug | 21 0 41 | 21 3 40 | | 0 | (2 21 28 | 3 3 39 |
| | SEPT | 19 13 25 | 19 18 50 | | Aug. | 17 15 50 | 17 1 57 |
| | 0 | (4 7 47 | 8 18 37 | | SEPT. | 16 4 34 | 15 16 2 |
| + | Oct | 19 2 9 | 19 9 0 | | Oct. | 15 17 18 | 15 9 2 |
| . I | Nov | 17 14 53 | 17 22 1 | | Nov. | 14 6 2 | 14 4 5 |
| | DEC | 17 8 87 | 17 9 53 | | DEC | 13 18 46 | 13 23 47 |
| | | | | 160. | Jan | (12 7 31 | 12 18 0 |
| 163. | JAN | 15 16 21 | 15 20 36 | F. | 0 | 27 1 53 | 26 21 14 |
| C, | FEB | 14 5 5 | 14 6 20 | | FEB | 10 20 15 | 11 9 52 |
| 24 15 50 | MAR | (15 17 49 | 15 15 28 | 24 9 17 | MAR. | 12 8 59 | 12 22 40 |
| Į | 0 | (30 12 11 | 31 0 25 | ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | APRIL | 10 21 43 | 11 8 35 |
| | APRIL | 14 6 83 | 14 0 37 | | MAY . | 10 10 27 | 10 16 25 |
| | MAY . | 18 19 17 | 18 10 48 | | JUNE . | 8 23 11 | 8 23 10 |
| | JUNE . | 12 8 1 | 11 22 32 | | JULY. | (8 11 55 | 8 5 59 |
| | JULY . | 11 20 45 | 11 12 26 | 5.4 | 0 | 23 6 17 | 23 9 5 |
| 1 | Aug | 10 9 29 | 10 4 19 | | Aug | 7 0 39 | 6 13 55 |
| | SEPT | 5 8 22 13 | 8 21 27 | | SEPT | 5 13 23 | 4 23 58 |
| | 0 | 23 16 35 | 23 7 51 | | Oct. | 5 2 7 | 4 12 48 |
| | Oct | 8 10 57 | 8 14 50 | | Nov. | 8 14 51 | 8 4 85 |
| | Nov. | 6 23 41 | 7 7 27 | | DEC | 3 3 35 | 2 22 45 |
| | DEC. | 6 12 25 | 6 22 29 | | | | 1 10 4 |
| | | 1 | | 159. | T | 1 16 20 | 1 18 4 |
| 162, | JAN | 5 1 10 | 5 11 84 | E. | Jan. O | 16 10 42 31 5 4 | 16 12 10 |
| В. | FEB | 8 18 54 | 8 22 34 | | Enn | 31 5 4 | 81 12 54 |
| 24 21 89 | MAR | 5 2 38 | 5 7 49 | | FEB | C 1 17 40 | 2 5 47 |
| | APRIL | 8 15 22 | 3 15 50 | 24 15 6 | MAR | 1 17 48 31 6 32 | 31 19 50 |
| | MAY . | 3 4 6 | 2 23 30 | | APRIL | 29 19 16 | 30 6 59 |
| | JUNE. | 1 16 50 | f 1 7 47 | | MAY . | 29 19 16 | 29 15 45 |
| , | Jure | 5 1 5 84 | 130 17 44 | | JUNE. | 27 20 44 | 27 23 12 |
| | JULY . | (30 18 18 | 80 6 10 | | JULY. | 27 9 28 | 27 6 23 |
| | Aug | 29 7 2 | 23 21 24 | | Aug. | 25 22 12 | 25 14 21 |
| | SEPT | 27, 19 46 | 27 14 57 | | SEPT. | 24 10 56 | 28 23 57 |
| | Oct | 27 8 30 | 27 9 44 | | Oct. | 23 23 40 | 23 11 45 |
| | Nov. | 25 21 14 | 26 4 17 | | Nov. | 22 12 24 | 22 2 0 |
| | DEC | 25 9 58 | 25 21 15 | | DEC. | 22 1 8 | 21 18 27 |
| | | 1 | 1 | | | 1 0 | 21 10 21 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|---------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 158. | | d. h. m. | d. h. m. | B.C. 155. | | d. h. m. | d. h. m. |
| D. | JAN | 20 13 52 | 20 12 19 | G. | JAN. | 17 5 2 | 17 8 50 |
| d. h . m . | FEB | 19 2 36 | 19 6 30 | March. | FEB. | 15 17 46 | 15 14 18 |
| 24 20 54 | MAR. | 20 15 20 | 20 23 41 | d. h. m. 24 14 21 | MAR. | 17 6 30 | |
| | APRIL | 19 4 4 | 19 14 48 | | APRIL | 15 19 14 | 17 1 0 15 12 83 |
| | MAY . | 18 16 48 | 19 3 30 | | MAY. | 15 7 58 | |
| | 0 | (2 11 10 | 2 1 19 | | JUNE . | 13 20 42 | |
| | JUNE. | 17 5 32 | 17 13 54 | | JULY. | 13 20 42 | 13 15 45 13 7 16 |
| | July. | 16 18 16 | 16 22 46 | | | 11 22 10 | |
| | Aug. | 15 7 0 | 15 7 3 | | Aug | | 11 23 17 |
| | SEPT. | 13 19 44 | 13 15 42 | | SEPT | 10 10 54 | 10 15 7 |
| | Oct. | 13 8 28 | 13 13 42 | | Oct | 9 23 38 | 10 6 6 |
| | | | | | Nov | 8 12 22 | 8 19 59 |
| ! | Nov. | $\begin{cases} 11 & 21 & 12 \\ 26 & 15 & 84 \end{cases}$ | 11 12 31 27 0 21 | | DEC | 8 1 6 | 8 8 31 |
| | | | | | | | |
| | DEC | 11 9 56 | 11 1 17 | 154. | JAN | 6 13 51 | 6 19 47 |
| 57 | JAN | 9 22 41 | 9 15 38 | F. | FEB | 5 2 85 | 5 5 51 |
| C.B. | FEB | 8 11 25 | 8 7 18 | 24 20 10 | Mar | 6 15 19 | 6 14 59 |
| 24 2 48 | MAR. | 9 0 9 | 8 23 46 | | 0 | 21 9 41 | 21 20 88 |
| | APRIL | 7 12 53 | 7 16 15 | | APRIL | 5 4 8 | 4 23 48 |
| | MAY. | (7 1 37 | 7 7 55 | | MAY. | 4 16 47 | 4 9 6 |
| 1 | 0 | 21 19 59 | 21 14 56 | | JUNE . | 8 5 81 | 2 19 49 |
| 1 | June. | 5 14 21 | 5 22 6 | | JULY . | 2 18 16 | ſ 2 8 85 |
| | JULY . | 5 3 5 | 5 10 83 | | | (170 | 81 28 85 |
| | Aug | 8 15 49 | 8 21 30 | | Aug | 80 19 44 | 80 16 22 |
| | SEPT. | 2 4 33 | 2 7 84 | | 0 | (14 14 6 | 14 7 18 |
| I 1 | DEFI | (1 17 17 | 1 17 28 | | SEPT | 29 8 28 | 29 10 0 |
| | Ocr | 81 6 1 | 81 8 44 | | Oct. | 28 21 12 | 29 8 82 |
| | 0 | (15 0 28 | 15 1 45 | | Nov. | 27 9 56 | 27 19 28 |
| | Nov. | 29 18 45 | 29 14 85 | | DEC. | 26 22 40 | 27 9 88 |
| | DEC | 29 7 29 | 29 2 6 | | DEC | 20 22 30 | 21 0 00 |
| | DEC | | 29 2 0 | | | | |
| 156. | JAN | 27 20 14 | 27 14 21 | 153. E.D. | JAN. | 25 11 24 | 25 21 86 |
| А. | FEB | 26 8 58 | 26 8 28 | Man.D. | FEB | 24 0 8 | 24 7 82 |
| 24 8 32 | MAR | 27 21 42 | 27 17 38 | 2 | 0 | 9 18 80 | 9 21 18 |
| | Arric | 26 10 26 | 26 8 80 | 24 1 59 | MAR | 24 12 52 | 24 15 58 |
| | 0 | 11 4 48 | 11 8 2 | | APRIL | 28 1 86 | 22 28 26 |
| | MAY . | 25 28 10 | 25 28 55 | | MAY . | 22 14 20 | 22 7 7 |
| | June . | 24 11 54 | 24 15 8 | | June. | 21 8 4 | 20 16 2 |
| | JULY . | 24 0 88 | 24 5 86 | | JULY. | 20 15 48 | 20 8 8 |
| | Aug | 22 13 22 | 22 19 1 | | Aug | 19 4 82 | 18 17 2 |
| | SEPT | 21 2 6 | 21 7 26 | | 0 | § 2 22 54 | 2 23 41 |
| | Oct | 20 14 50 | 20 19 7 | | SEPT | 17 17 16 | 17 9 89 |
| | 0 | (4 9 12 | 4 1 7 | | Oct | 17 6 0 | 17 4 8 |
| | Nov | 19 8 34 | 19 6 20 | | Nov | 15 18 44 | 15 28 9 |
| | DEC | 18 16 18 | 18 17 14 | | DEC | 15 7 28 | 15 17 11 |
| | | | 1 | | | | |

| | | | DERUSALEM | E CIVIL IIM. | | | |
|----------------------------|--------|------------------------------------|---|---|--------|---|---|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
| B.C. 152. | Jan | d. h. m. 13 20 12 | d. h. m. 14 8 59 | B.C. 149. _{G.F.} | JAN | d. h. m. | d. h. m. |
| .c. | _ | 1 | 1 | March. | 1 | | 10 1 13 |
| March. | FEB | 12 8 56 | 12 22 0 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | FEB. | 10 .0 6 | 10 1 10 |
| d. h. m. 24 7 47 | MAR. | 13 21 40 | 26 22 50 | 24 1 14 | MAR. | | |
| 23 1 31 | APRIL | 12 10 24 | 14 8 18 | | APRIL | 9 1 34 | |
| | MAY . | 11 23 8 | 12 16 30 | | MAY . | 8 14 18 | 9 0 58 |
| 1 | JUNE . | 10 11 52 | 11 23 30 10 6 18 | | JUNE. | $\begin{cases} 7 & 8 & 2 \\ 21 & 21 & 24 \end{cases}$ | 7 12 26 21 10 11 |
| İ | JULY. | 10 11 32 | 10 6 18 9 14 3 | | O | 1 - | 6 22 8 |
| 1 | Aug. | (8.13 20 | 7 23 49 | | July. | 6 15 46 | |
| , | 0 | 23 7 42 | 23 13 13 | | Aug | 5 4 80 | |
| 1 | SEPT | 7 2 4 | 6 12 24 | | SEPT | 3 17 14 | |
| | Oct. | 6 14 48 | | | Oct | 8 5 58 | 8 0 40 |
| | Nov. | 5 3 32 | $6 \cdot 4 \cdot 6$ $4 \cdot 22 \cdot 21$ | | Nov. | 1 18 42 | $\left\{ \begin{array}{ccc} 1 & 11 & 10 \\ 80 & 28 & 5 \end{array} \right.$ |
| <u> </u> | D | 4 16 16 | 4 .17 53 | | D | | • |
| 1 | DEC | ± 10 10 | # 14 99 | | DEC. O | 16 1 48 80 20 10 | 16 12 87 |
| 151, | JAN | 3 5 1 | 8 13 4 | | | . 20 10 | 80 12 81 |
| ₽. | FEB | 1 17 45 | 2 6 15 | (a) a B | | | |
| 24 13 36 | MAR. | 3 6 29 | 3 20 32 | 148. | JAN | 29 8 55 | 29 8 18 |
| 7 | APRIL | 1 19 13 | 2 7 44 | E. | FEB | 27 21 39 | 27 19 10 |
| | 13 | (1 7 57 | 1 16 26 | 24 7 3 | MAR. | 29 10 28 | 29 11 80 |
| | MAY . | 30 20 41 | 30 23 35 | | APRIL | 27 28 7 | 28 8 82 |
| | JUNE . | 29 9 25 | 29 * 6 15 | | MAY . | 27 11 51 | 27 18 81 |
| , | July . | 28 22 9 | 28 13 36 | | JUNE . | 26 0 35 | 26 7 57 |
| 1 | Aug | 27 10 53 | 26 22 34 | | July. | 25 18 19 | 25 19 49 |
| | SEPT | 25 23 37 | 25 10 4 | | Aug | 24 2 3 | 24 6 81 |
| | Ост | 25 12 21 | 25 0 26 | | SEPT. | 22 14 47 | 22 16 41 |
| | Nov. | 24 1 5 | 23 17 29 | | Oct | 22 8 81 | 22 2 56 |
| | DEC | 23 13 49 | 23 12 20 | | Nov | 20 16 15 | 20 18 84 |
| | | • | | | DEC | 20 4 59 | 20 0 42 |
| 150. | 0 | (7 8 11 | 7 11 24 | | | | - |
| A. | JAN | 22 2 34 | 22 7 29 | 147. | JAN | 18 17 48 | 18 12 28 |
| | FEB | 20 15 18 | 21 1 23 | D. | FEB | 17 6 27 | 17 0 45 |
| 24 19 25 | MAR | 22 4 2 | 22 16 50 | 24 12 52 | MAR | 18 19 11 | 18 14 2 |
| | APRIL | 20 16 46 | 21 5 21 | | Arril | 17 7 55 | 17 4 19 |
| | MAY . | 20 5 30 | 20 15 12 | | 0 | (2 2 17 | 2 8 18 |
| , | JUNE . | 18 18 14 | 18 23 16 | | MAY . | (16 20 8 9 | 16 19 28 |
| | _ 0 | § 3 12 36 | 3 5 20 | | JUNE . | 15 9 28 | 15 10 48 |
| - | JULY. | (18 6 58 | 18 6 34 | | JULY. | 14 22 7 | 15 1 51 |
| | Aug | 16 19 42 | 16 14 10 | | Aug | 13 10 51 | 18 16 8 |
| | SEPT. | 15 8 26 | 14 23 1 | | SEPT | 11 23 85 | 12 5 15 |
| | Ост. | 14 21 10 | 14 9 47 | | Oct | , 11 12 19 | 11 17 38 |
| | Nov. | 13 9 54 | 12 22 50 | | 0 | 26 6 41 | 25 20 18 |
| | DEC. | (12 22 38 | 12 14 9 | | Nov | 10 1 8 | 10 5 10 |
| | _ 11 | 2 | - 41 | | | | 70 0 TO |
| I | 0 | 27 17 0 | 28 2 30 | | DEC | 9 18 47 | 9 16 18 |

| | | | ERUSALEM (| JIVIL TIME. | | | |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|---|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| B.C. 146. | | d. h. m. | d. h. m. | D.O. | | d. h. m. | d. h. m. |
| С. | JAN | 8 2 31 | 8 2 58 | B.C. 143. | JAN | 4 17 42 | 5 5 32 |
| d. h . m . | FEB. | 6 15 16 | 6 13 16 | F. | FEB | (3 6 26 | |
| 24 18 40 | MAR. | 8 4 0 | 7 23 32 | March. | 0 | 18 0 48 | 3 19 57 |
| | APRIL | 6 16 44 | 6 10 18 | d. h. m. 24 12 7 | MAR. | 4 19 10 | 17 19 21 5 7 28 |
| | 0 | 21 11 6 | 21 23 8 | 27.12 | APRIL | 3 7 54 | |
| | MAY. | 6 5 28 | 5 22 14 | | | 2 20 38 | 3 16 31 |
| | June . | 4 18 12 | 4 11 42 | | MAY. | | 2 23 53 |
| | JULY. | 4 6 56 | 4 2 40 | | JUNE . | $\begin{cases} 1 & 9 & 22 \\ 20 & 22 & 3 \end{cases}$ | 1 6 35 |
| | Aug | 2 19 40 | 2 18 41 | | - | (30 22 6 | 30 13 42 |
| 1 | AUG. | (1 8 24 | | | July. | 30 10 50 | 29 23 22 |
| 1 | SEPT | 1 | 1 10 55 | | , 0 | 14 5 12 | 14 11 3 |
| | _ | (30 21 8 | (1 2 42 | (| Aug | 28 23 34 | 28 9 32 |
| | 0 | \{15 15 30 | 15 2 55 | | SEPT | 27 12 18 | 26 23 46 |
| | Oct | (30 9 52 | \\30 17 25 | | Ocr | 27 1 2 | 26 16 55 |
| 1 3 | Nov. | 28 22 36 | 29 6 47 | | Nov | 25 13 46 | 25 12 3 |
| | DEC | 28 11 20 | 28 18 44 | | DEC | 25 2 30 | 25 7 36 |
| | | | 1 | 142. | JAN | 23 15 15 | 24 1 55 |
| 145. | JAN | 27 0 5 | 27 5 17 | E. | 0 | (7 9 37 | 7 5 36 |
| B.A. | FEB | 25 12 49 | 25 14 37 | | FEB | 22 3 59 | 22 17 38 |
| 21 0 29 | MAR | 26 1 33 | 25 23 17 | 24 17 56 | MAR | 23 16 43 | 21 6 17 |
| | 0 | ∫ 9 19 55 | 10 7 26 | | APRIL | 22 5 27 | 22 16 5 |
| | APRIL | 124 14 17 | 24 8 0 | | MAY. | 21 18 11 | 21 23 51 |
| | MAY. | 24 3 1 | 23 17 44 | | JUNE. | 20 6 55 | 20 6 39 |
| 1 | June . | 22 15 45 | 22 5 17 | | JULY. | 19 19 89 | 19 13 35 |
| | JULY. | 22 4 29 | 21 19 12 | | 0 | (3 14 1 | 8 15 58 |
| | Aug | 20 17 13 | 20 11 17 | , | Aug | 18 8 28 | 17 21 45 |
| 3 | SEPT | 19 5 57 | 19 4 49 | | SEPT. | 16 21 7 | 16 8 0 |
| 1 | 0 | (4 0 19 | 8 16 22 | | Oct | 16 9 51 | 15 20 59 |
| 1 | Ост | 18 18 41 | 18 22 43 | | Nov. | 14 22 35 | 14 12 46 |
| 1 | Nov | 17 7 25 | 17 15 46 | ' | DEC. | 14 11 19 | 14 6 48 |
| | DEC | 16 20 9 | 17 7 5 | | | | |
| 1 1 | | | | 141. | JAN | ∫13 O 3 | 13 1 51 |
| 144. | JAN | 15 8 58 | 15 20 9 | D.C. | 0 | 127 18 25 | 27 20 50 |
| G. | FEB | 13 21 37 | 14 6 57 | | FEB | 11 12 47 | 11 20 25 |
| 24 6 18 | MAR. | 15 10 21 | 15 15 52 | 23 23 45 | MAR | 12 1 31 | 12 13 5 |
| | APRIL | 18 28 5 | 13 23 32 | | APRIL | 10 14 15 | 11 3 0 |
| | MAY. | 13 11 49 | 13 6 58 | | MAY. | 10 -2 59 | 10 14 8 |
| | JUNE . | 12 0 88 | 11 14 57 | | June . | 8 15 48 | 8 23 1 |
| | JULY. | 11 18 17 | 11 14 57 | | JULY. | § 8 4 27 | 8 6 41 |
| | Aug | 10 2 1 | 9 13 18 | | 0 | 22 22 49 | 22 16 21 |
| | | | | | Aug | 6 17 11 | 6 14 10 |
| | SEPT | 8 14 45 | 8 4 41 | | SEPT | 5 5 55 | 4 22 29 |
| | Oct | 8 8 29 | 7 22 81 | | Ocr | 4 18 89 | 4 8 21 |
| | Nov | 6 16 13 | 6 17 37 | | Nov | 8 7 28 | 2 20 17 |
| | DEC | 6 4 57 | 6 12 25 | | DEC | 2 20 7 | 2 10 27 |
| | | | | | | I. | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|---|---|---|---|--|--|---|---|
| B.C. 140. B. March. d. h. m. 24 5 88 | JAN FEB MAR APRIL MAY . O JUNE . JULY . | d. h. m. { 1 8 52 80 21 36 { 1 10 20 80 28 4 29 11 48 29 0 32 12 18 54 27 18 16 27 2 0 | d. h. m. 1 2 36 30 20 3 1 13 45 31 6 35 29 21 37 29 10 28 12 8 22 27 21 4 27 6 18 | B.C. 137. F.E. March. d. h. m. 23 22 59 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 28 12 46 27 1 30 27 14 14 26 2 58 25 15 42 24 4 26 28 17 10 22 5 54 20 18 88 | d. h. m. 28 12 28 26 22 27 27 8 36 25 19 36 25 8 5 28 22 17 28 18 56 22 6 22 20 22 45 |
| | Aug Sept Oct Nov O Dec | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 25 15 3 24 0 7 28 10 8 21 21 22 7 8 40 21 9 56 | 136. D. | OCT NOV DEC JAN FER | 20 7 22 18 20 6 18 8 50 16 21 85 15 10 19 | 20 14 19 19 4 87 18 17 22 17 4 82 15 14 16 |
| 139. a. 24 11 22 | JAN FEB MAR APRIL MAY . | 20 6 25 18 19 9 20 7 53 18 20 37 18 9 21 (2 3 43) | 19 23 52 18 14 56 20 6 50 18 22 55 18 14 28 1 22 18 | 24 4 48 | MAR O APRIL MAY. JUNE. JULY. | \$\begin{cases} 16 & 28 & 3 \\ 81 & 17 & 25 \\ 15 & 11 & 47 \\ 15 & 0 & 81 \\ 18 & 18 & 15 \\ 13 & 1 & 59 \end{cases}\$ | |
| | JUNE . JULY . AUG SEPT OCT Nov | \(\begin{aligned} \ 16 & 22 & 5 \\ 16 & 10 & 49 \\ 14 & 23 & 33 \\ 13 & 12 & 17 \\ 13 & 1 & 1 \\ \ \ 11 & 13 & 45 \end{aligned} \) | 17 4 47 16 17 36 15 5 4 13 15 43 18 2 5 11 12 39 | | AUG SEPT O OCT Nov DEC | 11 14 48 {10 | 11 6 28 9 23 84 24 15 41 9 17 89 8 11 29 8 8 56 |
| 138. G. 2 <u>4</u> 17 11 | DEC JAN FEB MAR | 9 15 13 8 3 57 9 16 41 | 26 9 44 10 23 33 9 10 49 7 22 34 | 135. c. 21 10 37 | Jan Feb Mar | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6 18 11 5 6 1 6 15 41 21 4 12 |
| | APRIL MAY . O JUNE . JULY . | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 9 11 3 8 0 32 7 15 4 22 15 29 6 6 18 5 21 42 | • | APRIL MAY . JUNE . JULY . | 4 20 85 4 9 19 2 22 8 { 2 10 47 81 28 81 | 4 28 42 4 6 57 2 14 24 1 28 11 81 10 18 |
| | Aug Sept Oct | $\begin{array}{c ccccc} 4 & 8 & 21 \\ 2 & 21 & 5 \\ 2 & 9 & 49 \\ 31 & 22 & 33 \\ 15 & 16 & 55 \\ 30 & 11 & 17 \\ \end{array}$ | 4 12 36 3 2 36 2 15 37 (1 3 48 15 9 10 30 15 16 | | Aug O SEPT Oct Nov Dec | 30 12 15 {14 6 37 29 0 59 28 18 48 27 2 27 | 80 0 18 14 7 58 28 17 7 28 11 54 27 7 11 |
| | DEC | 30 0 1 | 30 2 9 | | -M.O | 26 15 11 | 27 1 22 |

| | 1 | 1 | | 11 | | | |
|--|----------------------------|---|---|---|--|--|--|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mesn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
| B.C. 134. B. March. d. h. m. 24 16 26 | | d. h. m. 25 | d. h. m. 25 17 11 24 6 4 10 6 16 25 16 10 24 0 8 23 6 59 21 13 44 20 21 31 19 7 24 3 20 58 17 20 9 17 11 58 | B.C. 131. E. March. d. h. m. 24 9 52 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT | a. h. m. { 7 0 45 21 19 5 20 7 50 21 20 34 20 9 18 19 22 2 18 10 46 } 8 5 8 {17 23 30 16 12 14 15 0 58 14 13 42 | d. h. m. 7 11 12 21 15 9 20 8 87 22 1 49 20 17 45 20 7 40 18 19 27 2 17 11 18 5 30 16 14 87 14 28 39 14 9 19 |
| 133. A.G. | Nov Dec | 16 11 16 16 0 0 14 12 45 | 16 6 19 16 1 52 14 20 57 | 130. | Nov DEC O JAN | 13 2 26 {12 15 10 {27 9 32 11 8 54 | 14 9 19 12 20 1 12 7 52 27 20 59 10 20 57 |
| 28 22 15 | FEB MAR APRIL MAY . JUNE . | 18 1 29 18 14 18 12 2 57 11 15 41 10 4 25 | 18 14 1 14 4 8 12 15 18 11 28 51 10 7 1 | D. 24 15 41 | FEB MAR APRIL MAY . | 9 16 38 11 5 22 9 18 6 9 6 50 | 9 11 11 11 2 25 9 18 16 9 10 2 |
| | JULY . AUG SEPT OCT Nov | 9 17 9 8 5 53 6 18 37 6 7 21 4 20 5 | 9 13 49 7 21 21 6 6 85 5 18 14 4 8 41 | | June . O July . Aug Sept | 7 19 84 22 18 56 7 8 18 5 21 2 4 9 46 | 8 1 8 22 5 41 7 14 49 6 8 9 4 14 24 |
| 132. F. | DEC | 4 8 49 { 2 21 88 { 17 15 55 | 4 1 39 2 20 16 | | Oct Nov Dec | \$ 22 80 2 11 14 { 1 28 58 { 81 12 42 | 4 1 7 2 11 45 1 22 32 81 9 81 |
| 24 4 4 | FEB MAR APRIL | 1 10 17 2 28 1 1 11 45 (1 0 29 | 17 20 11 1 15 5 8 8 42 1 28 58 1 12 26 | 129. c.s. 28 21 80 | JAN FED MAR APRIL | 80 1 27 28 14 11 29 2 55 27 15 89 | 29 20 49 28 8 87 28 21 17 27 11 8 |
| | June . O July . Aug | \(\) 18 18 \(\) 18 18 \(\) 29 1 57 \(\) 18 20 19 \(\) 28 14 41 | 80 22 24 29 6 88 18 11 58 28 14 14 26 22 12 | | MAY . JUNE . JULY . AUG SEPT | 12 10 1 27 4 28 25 17 7 25 5 51 28 18 85 22 7 19 | 12 15 46 27 1 58 25 17 17 25 8 89 28 28 24 |
| | OCT Nov Dec | 25 4 58 28 17 87 | 25 7 24 24 18 22 28 7 24 22 22 28 | | OCT O Nov Dec | 22 7 19 21 20 8 5 14 25 20 8 47 19 21 81 | 22 18 12 22 2 4 5 4 19 20 14 4 20 1 15 |

| | | | | | | 1 | |
|---|--|--|---|--|--|---|---|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
| B.C. 128. A. March. d. h. m. 24 3 19 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT O CT O | d. h. m. 18 10 15 16 23 0 18 11 44 17 0 28 { 1 18 50 16 18 12 15 1 56 14 14 40 13 3 24 11 16 8 { 11 4 52 23 23 14 | d. h. m. 18 11 43 16 21 38 18 7 21 16 17 35 2 6 24 16 5 4 14 18 17 14 9 16 13 1 33 11 18 18 11 10 40 25 11 23 | B.C. 125. E.D. March. d. h. m. 28 20 45 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG . O SEPT OCT | d. h. m. 16 1 26 {14 14 10 29 8 32 15 2 54 13 15 88 13 4 22 11 17 6 11 5 50 { 9 18 34 24 12 56 8 7 18 7 20 2 | d. h. m. 16 18 42 15 4 1 29 8 8 15 15 21 14 0 11 18 7 28 11 14 0 10 21 10 9 5 58 24 18 95 7 17 18 7 7 89 |
| | Nov Dec | 9 17 36 9 6 20 | 25 11 25 10 1 54 9 15 33 | | Nov Dec | 6 8 46 5 21 30 | 6 0 54 5 20 8 |
| 127. .g. 24 9 8 | JAN FRE MAR APRIL O MAY . JUNE . JULY . AUG SEPT O Oct Nov Dec | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 124. c. 24 2 34 | JAN FEB O MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 4 15 80 8 9 89 17 18 49 5 1 18 8 18 44 2 28 28 1 7 18 80 14 8 29 21 17 18 22 55 28 5 42 26 16 11 26 5 16 24 21 1 24 14 50 |
| 126. F. 24 14 57 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 26 16 37 25 5 21 26 18 5 25 6 49 24 19 38 23 8 17 22 21 1 21 9 45 19 22 29 19 11 18 17 28 57 17 12 41 | 27 4 38 25 15 12 26 23 48 25 7 10 24 14 17 22 22 11 22 8 0 20 20 35 19 12 9 19 6 14 18 1 34 17 20 34 | 123. B. 24 8 23 | JAN. O FEB. MAR. APRIL MAY JUNE JULY O AUG. SEPT. OCT. Nov. DEC. | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 28 9 85 7 5 22 22 3 48 28 20 14 22 10 4 21 21 13 20 6 18 19 14 14 2 28 9 17 22 7 16 6 48 15 16 56 14 4 57 18 18 56 |

| | | | JERUSALEM | OIVIL LIME | • | | |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|-----------|---|------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| B.C. 122. | | d. h. m. | d. h. m. | B.C. 119. | | d. h. m. | d. h. m. |
| March. | JAN | 12 16 35 | 12 10 42 | D, | JAN | 9 7 45 | 9 10 59 |
| d. h. m. | FEB | 11 5 19 | 11 3 37 | March. $d. h. m.$ | FEB | 7 20 29 | 7 20 58 |
| 24 14 12 | MAR | 12 18 3 | 12 20 51 | 24 7 38 | MAR | 9 9 13 | 9 6 27 |
| | APRIL | 11 6 47 | 11 13 22 | | APRIL | 7 21 57 | 7 16 5 |
| | MAY. | 10 19 31 | 11 4 18 | | MAY . | 7 10 41 | 7 2 37 |
| | JUNE. | 9 8 15 | 9 17 13 | | June . | 5 23 25 | 5 14 46 |
| | July. | 8 20 59 | 9 4 14 | | July . | 5 12 9 | 5 4 52 |
| | Aug. | 7 9 43 | 7 13 55 | | Aug | 4 0 53 | 3 20 39 |
| | SEPT | 5 22 27 | 5 23 9 | | SEPT | 2 13 37 | 2 13 31 |
| | Oct | 5 11 11 | 5 8 41 | | Ост. | $\int 2 221$ | 2 6 26 |
| | Nov | 8 28 55 | 8 18 57 | | OCT. | (81 15 5 | 81 22 84 |
| | DEC | 8 12 89 | 8 6 13 | | Nov | 80 8 49 | 80 13 15 |
| | 0 | (18 7 1 | 18 6 54 | | DEC | 29 16 83 | 30 2 6 |
| | - | (2 1 21 | 1 18 33 | | | | |
| 121. G.F. | JAN | 81 14 8 | 81 7 59 | 118. | JAN | 28 5 18 | 28 13 9 |
| G.F. | FEB | | 29 22 27 | C. | FEB | 26 18 2 | 26 22 85 |
| 00 00 1 | 1 | (1 2 52 | · | 24 13 27 | MAR | 28 6 46 | 28 6 58 |
| 28 20 1 | MAR. | 180 15 86 | 80 18 46 | | 0 | ſ12 1 8 | 12 10 81 |
| | APRIL | 29 4 20 | 29 5 29 | | APRIL | ₹26 19 80 | 26 14 50 |
| | MAY . | 28 17 4 | 28 20 56 | | MAY . | 26 8 14 | 25 28 24 |
| | 0 | ſ12 11 26 | 12 5 40 | | June . | 24 20 58 | 24 9 87 |
| | JUNE . | 27 5 48 | 27 11 27 | | JULY. | 24 9 42 | 28 22 15 |
| | JULY. | 26 18 82 | 27 0 42 | | Aug | 22 22 26 | 22 13 29 |
| | Aug | 25 7 16 | 25 12 44 | | SEPT | 21 11 10 | 21 6 54 |
| | SEPT | 28 20 0 | 28 28 57 | | 0 | $\int 6 5 82$ | 6 0 14 |
| | Our | 28 8 44 | 28 10 48 | | Ост. | (20 23 54 | 21 1 25 |
| | Nov | 21 21 28 | 21 21 85 | | Nov | 19 12 88 | 19 19 89 |
| | _ 0 | ∫ 6 15 50 | 6 17 41 | | DEC | 19 1 22 | 19 12 20 |
| | DEC | (21 10 12 | 21 8 27 | | | | |
| 120. | JAN | 19 22 57 | 19 19 26 | 117. | JAN | 17 14 7 | 18 2 39 |
| ĸ. | FEB | 18 11 41 | 18 6 41 | В.А. | FEB | 16 2 51 | 16 14 20 |
| 24 1 50 | MAR | 20 0 25 | 19 18 84 | 23 19 16 | MAR. | ∫16 15 83 | 16 28 42 |
| | APRIL | 18 18 9 | 18 7 29 | | . 0 | (81 9 57 | 81 11 5 |
| | MAY . | 18 1 58 | 17 21 88 | | APRIL | 15 4 19 | 15 7 27 |
| | 0 | § 1 20 15 | 1 22 56 | | MAY . | 14 17 3 | 14 14 21 |
| | JUNE. | 16 14 87 | 16 12 46 | | JUNE . | 18 5 47 | 12 21 42 |
| | July . | 16 8 21 | 16 4 20 | | JULY . | 12 18 81 | 12 6 26 |
| | Aug | 14 16 5 | 14 19 42 | | Aug | 11 7 15 | 10 17 85 |
| | SEPT | 18 4 49 | 18 10 17 | | SEPT | $ \begin{cases} 9 & 19 & 59 \\ 24 & 14 & 21 \end{cases} $ | 9 7 44 24 16 14 |
| | Oct | 12 17 88 | 12 28 56 | | Oct | 9 8 48 | |
| | Nov | ∫11 6 17 | 11 12 38 | | Nov. | 7 21 27 | 9 0 46 |
| | ~ 0 | 126 0 89 | 25 17 16 | | DEC. | 7 10 11 | 7 15 14 |
| | DEC. | 10 19 1 | 11 0 18 | | ه والمرسد | . 10 11 | . 10 13 |
| L | | 1 | 1 | | ı | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-------------------------------------|--|---|--|--|---|--|--|
| B.C. 116. g. March. d. h. m. 24 1 5 | JAN FEB MAR O APRII. MAY . JUNE . JULY . AUG O SEPT OCT NOV | d. h. m. 5 22 55 4 11 39 { 6 0 28 { 20 18 45 4 13 7 4 1 51 2 14 85 { 2 8 19 { 30 4 47 { 13 28 9 { 28 17 81 28 6 15 26 18 59 | d. h. m. 6 9 28 5 1 14 6 13 57 20 13 35 4 23 51 4 7 41 2 14 24 1 21 11 81 5 5 29 15 8 14 4 50 28 4 25 27 19 57 26 14 19 | B.C. 113. D.C. March. d. h. m. 28 18 31 | JAN O FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OOT NOV | d. h. m. { 3 14 5 18 8 27 2 2 49 2 15 83 { 1 4 17 80 17 1 30 5 45 28 18 29 { 18 12 51 28 7 18 26 19 57 25 8 41 24 21 25 23 10 9 | d. h. m. 3 6 46 18 19 46 1 22 56 2 15 58 1 8 40 { 1 0 28 80 14 28 29 2 26 13 0 16 28 12 56 26 22 88 25 8 4 24 18 6 28 4 55 |
| 115. p. 24 6 54 114. c. 24 12 48 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC JAN O FEB APRIL MAY . JUNE . | 26 7 48 24 20 28 23 9 12 24 21 56 23 10 40 22 28 24 21 12 8 21 0 52 19 18 36 18 2 20 17 15 4 16 3 48 15 16 32 [14 5 17 [28 28 39 12 18 1 14 6 45 12 19 29- 12 8 18 10 20 57 | 26 9 47 25 4 42 28 21 36 25 11 34 28 22 31 28 7 11 21 14 26 20 21 26 19 5 15 17 14 44 17 2 34 15 17 1 15 9 48 14 4 5 29 4 49 12 22 84 14 15 52 18 6 59 12 19 27 11 5 34 | 112. B. 24 0 20 | DEC O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC JAN FEB MAR APRIL MAY . O | 22 22 58 | 22 16 88 7 5 15 21 5 18 19 18 58 21 9 85 20 0 57 19 16 82 18 7 87 2 18 5 17 21 48 16 10 85 14 22 27 14 9 41 12 20 88 12 7 80 10 18 18 9 5 9 10 16 22 9 4 27 8 17 45 23 28 18 |
| | JULY . O AUG SEPT OCT NOV DEC | (10 9 41 (25 4 3 8 22 25 7 11 9 6 28 58 5 12 37 5 1 21 | 10 14 4 24 18 46 8 22 8 7 6 25 6 15 55 5 3 8 4 16 1 | | JUNE . JULY . AUG SEPT OCT Nov O | 7 12 7 7 0 51 5 18 85 4 2 19 8 15 8 { 2 8 47 { 16 22 9 { 1 16 81 31 5 15 | 7 8 20 6 28 48 5 15 82 4 6 51 8 21 18 2 10 40 16 12 81 1 22 57 31 10 9 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------|------------------------------------|---|--------|--|------------------------------------|
| B.C. 110. | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| G. | JAN | 29 17 59 | 29 20 22 | B.C. 107. | Jan | 26 9 9 | 26 21 42 |
| March. | FEB | 28 6 43 | 28 5 50 | с. | FEB. | 24 21 53 | 25 11 54 |
| d. h. m. 24 11 58 | MAR. | 29 19 27 | 29 15 3 | March. | | (11 16 15 | 11 10 37 |
| 24 11 00 | APRIL | 28 8 11 | 28 0 47 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | MAR | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 26 23 4 |
| ļ. | | (13 2 33 | 13 13 33 | 24 0 21 | APRIL | 24 23 21 | 25 7 43 |
| - | MAY. | 27 20 55 | 27 11 52 | | MAY . | 24 12 5 | 24 14 49 |
| | JUNE . | 26 9 39 | 26 0 54 | | June . | 23 0 49 | 22 21 28 |
| | JULY. | 25 22 23 | 25 15 57 | | | 22 13 33 | |
| | | 24 11 7 | 24 8 32 | | JULY. | 1 | |
| | Aug | 22 23 51 | i i | | Aug | 21 2 17 | 20 13 41 |
| | SEPT | | | | ~ 0 | $\begin{cases} 4 & 20 & 39 \\ 10 & 37 \end{cases}$ | 5 2 10 |
| | Ост | 22 12 35 | 22 18 42 | | SEPT. | 19 15 1 | 19 1 12 |
| | 0 | 6 6 57 | 5 19 58 | | Oct | 19 8 45 | 18 15 41 |
| | Nov | \21 1 19 | 21 10 23 | | Nov | 17 16 29 | 17 8 56 |
| | DEC | 20 14 8 | 21 0 16 | | DEC | 17 5 13 | 17 3 59 |
| | T | 10 0 10 | 10 10 11 | 106. | JAN | 15 17 58 | 15 23 19 |
| 109. F.E. | JAN | 19 2 48 | 19 12 11 | В. | FEB | 14 6 42 | ∫14 17 15 |
| | FEB | 17 15 82 | 17 22 15 | | 0 | § 1 1 4 | $\chi_{28} = 1.58$ |
| 23 17 47 | MAR | 18 4 16 | 18 6 50 | 21 11 13 | MAR | 15 19 26 | 16 8 39 |
| | APRIL | 16 17 0 | 16 14 39 | | APRIL | 14 8 10 | 14 21 3 |
| | 0 | \[1 11 22 | 1 21 7 | | MAY . | 13 20 54 | 14 6 45 |
| | MAY . | 16 5 44 | 15 22 36 | | June . | 12 9 88 | 12 14 36 |
| | June. | 14 18 28 | 14 7 47 | | JULY . | 11 22 22 | 11 21 42 |
| | JULY. | 14 7 12 | 13 19 5 | | Aug | ∫10 11 6 | 10 5 6 |
| | Aug | 12 19 56 | 12 9 4 | , . | 0 | 125 5 28 | 25 5 59 |
| | SEPT | 11 8 40 | 11 1 93 | | SEPT | 8 28 50 | 8 18 49 |
| | Oct | {10 21 24 | 10 19 56 | | Oct | 8 12 84 | 8 0 32 |
| f | 0 | 25 15 46 | 25 9 43 | | Nov | 7 1 18 | 6 18 42 |
| | Nov. | 9 10 8 | 9 14 40 | | DEC | 6 14 2 | 6 5 19 |
| | DEC | 8 22 52 | 9 8 25 | 105. | JAN | 5 2 46 | 4 22 49 |
| | | | | A.G. | FEB. | f 8 15 80 | 8 17 9 |
| 108. | JAN | 7 11 87 | 801 | | 0 | 18 9 52 | 18 13 47 |
| D. | FEB | 6 0 21 | 6 12 58 | 28 17 2 | MAR. | 4 4 14 | 4 11 1 |
| 28 23 36 | Mar | 7 13 5 | 7 28 19 | | APRIL | 2 16 58 | 8 8 12 |
| | APRIL | 6 1 49 | 6 7 37 | | | 1 2 5 42 | 2 16 59 |
| | MAY . | 5 14 83 | 5 14 42 | | MAY . | 81 18 26 | (1 4 16 |
| | June . | 4 8 17 | 8 21 39 | | JUNE . | 80 7 10 | 30 18 36 |
| | July . | 8 16 1 | 8 5 30 | | JULY . | 29 19 54 | 29 21 54 |
| ľ | Aug | § 2 4 45 | 1 15 21 | | 0 | (18 14 16 | 18 6 8 |
| | 4400. | 81 17 29 | 81 4 1 | | Aug | 28 8 88 | 28 6 10 |
| | SEPT | 80 6 18 | 29 19 47 | | SEPT. | 26 21 22 | 26 15 18 |
| | Ocr | 29 18 57 | 29 14 8 | | OCT. | 26 10 6 | 26 1 86 |
| | Nov | 28 7 41 | 28 9 33 | | Nov. | 24 22 50 | 24 18 89 |
| | DEC | 27 20 25 | 28 4 87 | | DEC. | 24 11 84 | 24 8 25 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Fuil Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (() Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|---------|------------------------------------|-------------------------------------|
| B.C. 104. | | d. h. m. | d. h. m. | B.C. | | d. h. m. | d. h. m. |
| F. | JAN | 23. 0 19 | 22 18 43 | C.B. | JAN | 20, 15 29 | 20 19 45 |
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| 103. E. | JAN., | 12 9 8 | 12 3 8 | A. | FEB | 7 18 2 | 7 21 40 |
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| C. FEE. 17 8 4 17 21 8 MAR. 18 20 48 19 7 15 APRIL 17 9 32 17 15 17 MAY . 16 22 16 16 22 12 JUNE . 15 11 0 15 5 1 JULY . 14 23 44 14 12 52 AUG 13 12 28 12 22 49 SEPT 12 1 12 11 13 38 OCT 11 13 56 11 8 32 Nov 10 2 40 9 21 57 DEC 9 15 24 9 17 31 24 1 41 MAR 0 (28 17 86 28 22 4 MAR 15 11 58 15 18 7 APRIL 14 0 42 14 10 4 MAY . 18 18 26 13 28 50 JUNE . 12 2 10 12 11 18 JULY . 11 14 54 11 20 58 AUG (10 8 88 10 5 40 CM | 90. | JAN. | 18 19 90 | 19 8 90 | F. | FEB | (18 28 14 | 14 0 87 |
| 24 8 15 MAR. 18 20 48 19 7 15 APRIL 17 9 32 17 15 17 MAY . 16 22 16 16 22 12 JUNE . 15 11 0 15 5 1 JULY . 14 28 44 14 12 52 AUG 13 12 28 12 22 49 Sept 12 1 12 11 13 38 Oct 11 13 56 11 8 32 Nov 10 2 40 9 21 57 Dec 9 15 24 9 17 31 24 14 14 15 21 17 18 18 18 26 18 28 17 28 18 18 18 18 18 18 18 18 18 18 18 18 18 | 1 | | | | | 0 | 28 17 86 | 28 22 4 |
| APRIL 17 9 32 17 15 17 MAY . 16 22 16 16 22 12 JUNE . 15 11 0 15 5 1 JULY . 14 23 44 14 12 52 AUG 13 12 28 12 22 49 SEPT 12 1 12 11 11 38 Oct 11 13 56 11 8 32 Nov 10 2 40 9 21 57 DEC 9 15 24 9 17 31 APRIL 14 0 42 14 10 4 MAY . 18 18 26 18 28 50 JUNE . 12 2 10 12 11 18 JULY . 11 14 54 11 20 58 AUG (10 8 88) 10 5 40 C (24 22 0 24 18 7) SEPT 8 16 22 8 14 21 Oct 8 5 6 7 28 47 Nov 6 17 50 6 10 24 | 94 8 15 | | | | 24 1 41 | MAR | 15 11 58 | 15 18 7 |
| MAY . 16 22 16 16 22 12 June . 15 11 0 15 5 1 July . 14 28 44 14 12 52 Aug 13 12 28 12 22 49 Sept 12 1 12 11 11 38 Oct 11 13 56 11 8 32 Nov 10 2 40 9 21 57 Dec 9 15 24 9 17 31 MAY . 18 18 26 18 28 50 June . 12 10 12 11 18 July . 11 14 54 11 20 58 Aug | 22 0 10 | | | | | APRIL | 14 0 42 | 14 10 4 |
| June. 15 11 0 15 5 1 July. 14 28 44 14 12 52 Aug. 13 12 28 12 22 49 Sept. 12 1 12 11 11 38 Oct. 11 13 56 11 8 32 Nov. 10 2 40 9 21 57 Dec. 9 15 24 9 17 31 June . 12 2 10 12 11 18 July . 11 14 54 11 20 58 Aug. 5 (10 8 88 10 5 40 C (24 22 0 24 18 7 Sept. 8 16 22 8 14 21 Oct. 8 5 6 7 28 47 Nov. 6 17 50 6 10 21 | , | | | 1 | | | 1 | |
| July . 14 23 44 14 12 52 Aug 13 12 28 12 22 49 Sept 12 1 12 11 11 38 Oct 11 13 56 11 8 32 Nov 10 2 40 9 21 57 Dec 9 15 24 9 17 31 July . 11 14 54 11 20 58 Aug | | | | | | | | |
| Aug. 13 12 28 12 22 49 Sept. 12 1 12 11 11 38 Oct. 11 13 56 11 3 32 Nov. 10 2 40 9 21 57 Dec. 9 15 24 9 17 31 Aug. 1 10 8 88 10 5 40 C 24 22 0 24 18 7 Sept. 8 16 22 8 14 21 Oct. 8 5 6 7 28 47 Nov. 6 17 50 6 10 21 | | _ | 1 | | | JULY. | | 1 |
| Sept. 12 1 12 11 11 38 Oct. 11 18 56 11 8 32 Nov. 10 2 40 9 21 57 Dec. 9 15 24 9 17 31 Cct. 12 12 12 13 13 14 15 15 16 17 50 6 10 21 | | | | | | | 1 | |
| Oct. 11 13 56 11 8 32 Nov. 10 2 40 9 21 57 Dec. 9 15 24 9 17 31 Sept. 8 16 22 8 14 21 Oct. 8 5 6 7 28 47 Nov. 6 17 50 6 10 21 | | | | | 16 | | X 1 | 1 |
| Nov. 10 2 40 9 21 57 Dec. 9 15 24 9 17 31 Oct. 8 5 6 7 28 47 Nov. 6 17 50 6 10 21 | | | | 11 | | | | 1 |
| Dec. 9 15 24 9 17 31 Nov. 6 17 50 6 10 21 | | | | | | _ | | |
| 5 25 24 9 17 81 | | | 1 | | | | | |
| 5 22 23 | | DEC | 9 15 24 | 9 17 31 | | | | |
| | 1 | | | | | | 0 0 04 | 0 42 20 |

| Mean Vernal Equinos. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-----------------------------|-----------------|---|--|----------------------------|-----------------|---------------------------------------|------------------------------------|
| B.C. 86. E. March. | Jan | d. h. m. 4 19 19 | d. h. m. 4 11 58 | B.C. 83. | Jan | d. h. m. | d. h. m. 1 17 58 |
| d. h. m. 24 7 30 | FEB | 3 8 3 | 3 2 38 4 18 26 | March. | FEB | 130 23 13 | 31 4 24 |
| | APRIL | 3 9 31 | 3 10 40 | d. h. m. | i | (1 11 57 | 1 13 36 |
| | MAY . | 2 22 15 | 3 2 38 | 24 0 56 | MAR | \langle 31 0 41 | 30 22 9 |
| | JUNE . | $\begin{cases} 1 & 10 & 59 \\ 90 & 90 & 49 \end{cases}$ | 1 17 32 | | APRIL | 29 13 25 | 29 6 51 |
| | JULY . | 30 23 43 30 12 27 | $\begin{cases} 1 & 6 & 55 \\ 30 & 18 & 47 \end{cases}$ | | MAY. | 29 2 9 | 28 16 35 |
| | Aug. | 29 1 11 | 29 5 31 | | JUNE . | 27 14 53 | 27 4 16 |
| 1 | SEPT. | 27 13 55 | 27 15 47 | | JULY . | 27 3 37 25 16 21 | 26 18 19 |
| | Oct. | 27 2 39 | 27 2 7 | | SEPT. | 24 5 5 | 25 10 35 24 4 15 |
| | Nov | 25 15 23 | 25 12 49 | | Oct. | 28 17 49 | 23 22 12 |
| | DEC | 25 4 7 | 24 23 57 | | Nov. | 22 6 33 | 22 15 15 |
| | | | | | DEC | 21 19 17 | 22 6 28 |
| | _ 0 | ∫ 8 22 29 | 9 9 12 | 82. | Jan. | 20 8 1 | |
| 85. D.C. | JAN | 128 16 51 | 23 11 36 | 62. G. | FEB. | 20 8 1 18 20 45 | 20 19 23 |
| | FEB. | 22 5 85 | 21 23 55 | 24 6 45 | MAR. | 20 9 29 | 19 6 1 20 14 45 |
| 23 13 19 | MAR | 22 18 19 | 22 13 10 | 23 0 30 | APRIL | 18 22 13 | 18 22 19 |
| | APRIL | 21 7 3 | 21 3 24 | | 0 | 6 3 16 35 | 3 23 56 |
| | MAY . June . | 20 19 47 | 20 18 28 | | MAY . | 18 10 57 | 18 5 38 |
| | | 19 8 31 | 19 9 51 3 20 33 | | June . | 16 23 41 | 16 18 44 |
| | JULY. | 18 21 15 | 19 0 55 | | JULY . | 16 12 25 | 15 23 44 |
| 1 | Aug | 17 9 59 | 17 15 10 | | Aυα | 15 1 9 | 14 12 25 |
| | SEPT | 15 22 43 | 16 4 25 | | SEPT | 18 18 58 | 13 4 1 |
| | Ост | 15 11 27 | 15 16 46 | | Oct | ∫13 2 37 | 12 22 2 |
| | Nov | 14 0 11 | 14 4 27 | | 0 | 127 20 59 | 27 17 41 |
| | DEC | (18 12 55 | 18 15 88 | | Nov | 11 15 21 | 11 17 12 |
| | 0 | 28 7 17 | 28 9 38 | | DEC | 11 4 5 | 11 11 59 |
| 84. | | | | 81. | Jan | 9 16 50 | 10 4 56 |
| B. | JAN Feb | 12 1 40 | 12 2 10 | F.E. | FEB | 8 5 34 | 8 19 9 |
| 23 19 8 | MAR. | 10 14 24 | 10 12 22 | 28 12 84 | MAR. | 8 18 18 | 9 6 28 |
| -0 10 0 | APRIL | 12 3 8 10 15 52 | 11 22 32 | | APRIL | $\begin{cases} 7 & 7 & 2 \end{cases}$ | 7 15 20 |
| | MAY . | 10 15 52 | 10 9 16 9 21 11 | | . 0 | 122 1 24 | 22 0 81 |
| . [| JUNE . | (8 17 20 | 8 10 42 | | MAY . June . | 6 19 46 | 6 22 85 |
| | 0 | 28 11 42 | 28 18 47 | | JUNE. | 5 8 80 4 21 14 | 5 5 16 |
| | JULY . | 8 6 4 | 8 1 46 | | Aug. | 8 9 58 | 4 12 28 2 21 17 |
| | Aug | 6 18 48 | 6 17 52 | | SEPT. | 1 22 42 | (1 8 40 |
| | SEPT | 5 7 32 | 5 10 12 | | | 1 11 26 | 80 28 7 |
| | Oct | 4 20 16 | 5 2 1 | | Ост. 0 | 16 5 48 | 16 9 17 |
| | Nov | 8 9 0 | 3 16 46 | | | 31 0 10 | 80 16 27 |
| , | DEC | § 2 21 44 | 3 6 7 | | Nov | 29 12 54 | 29 11 40 |
| | 0 | 117 16 6 | 17 9 34 | | DEC | 29 1 38 | 29 7 10 |
| | - 1 | 1 | [[| | | | U. |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|---|---|--|---|--|--|---|
| B.C. 80. D. March. d. h. m. 23 18 23 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | d. h. m. 27 14 23 26 3 7 27 15 51 {11 10 13 {26 4 35 25 17 19 24 6 3 23 18 47 22 7 31 20 20 15 { 5 14 37 {20 8 59 18 21 43 18 10 27 | d. h. m. 28 1 21 26 16 51 28 5 16 11 3 57 26 14 53 25 22 33 24 5 21 28 12 22 21 20 40 20 7 8 5 20 56 19 20 19 18 12 16 18 6 23 | B.C. 77. A.G. March. d. h. m. 23 11 49 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov DEC | d. h. m. 25 5 82 { 8 23 54 { 23 18 16 24 7 0 22 19 44 22 8 28 20 21 12 20 9 56 { 4 4 18 18 22 40 17 11 24 17 0 8 15 12 52 15 1 36 | d. h. m. 24 28 10 9 12 82 28 14 12 24 6 1 22 22 2 22 18 80 21 8 45 20 16 84 8 14 49 19 4 4 17 14 47 17 1 15 15 11 58 14 22 46 |
| 79. c. 24 0 12 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 16 28 11 15 11 55 17 0 39 15 18 28 15 2 7 18 14 51 18 3 35 11 16 19 10 5 8 9 17 47 8 6 81 7 19 15 | 17 1 28 15 19 49 17 12 16 16 2 · 0 15 12 57 18 21 47 18 5 27 11 18 1 9 21 28 9 7 82 7 19 37 7 9 58 | 76. F. 23 17 88 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEFT OCT NOV | (18 14 21 28 8 48 12 8 5 18 15 49 12 4 88 11 17 17 10 6 1 (9 18 45 24 18 7 8 7 29 6 20 18 6 8 57 4 21 41 | 18 10 2 28 21 28 11 21 44 18 10 10 11 28 87 11 14 8 10 5 28 9 20 47 24 4 9 8 11 48 7 1 46 6 14 51 5 8 8 |
| 78. B. 24 6 1 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG. O SEPT OCT NOV DEC | 6 8 0 { 4 20 44 {19 15 6 6 9 28 4 22 12 4 10 56 2 23 40 2 12 24 1 1 8 {15 19 30 80 18 52 29 2 86 28 15 20 27 4 4 26 16 48 | 6 2 4 4 19 28 19 21 45 6 18 5 5 5 46 4 20 38 3 9 17 2 19 54 1 5 10 15 8 89 30 14 0 28 28 12 28 9 20 26 20 39 26 9 17 | 75. E. 23 23 27 | DEC. JAN. FEB. MAR. APRIL MAY O JUNE JULY AUG. SEPT. OCT. Nov. O DEC. | 4 10 25 2 28 10 1 11 54 8 0 88 1 18 22 { 1 2 6 80 14 50 { 14 9 12 29 3 84 28 16 18 27 5 2 25 17 46 25 6 30 28 19 14 { 8 18 36 28 7 58 | 4 14 88 8 1 21 1 11 84 2 21 28 { 1 7 88 80 18 88 80 7 4 14 18 58 28 21 20 28 18 6 27 5 88 25 22 5 25 18 41 24 8 58 8 5 4 28 16 88 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|--|---------|------------------------------------|------------------------------------|
| B.C. 74. | | d. h. m. | d. h. m. | B.C. 71. | | d. h. m. | d. h. m. |
| D. Manah | JAN | 21 20 42 | 22 3 41 | G. | JAN | 18 11 52 | 18 20 26 |
| March. $d. h. m.$ | FEB | 20 9 26 | 20 18 17 | $\begin{array}{c} \text{March.} \\ d. \ h. \ m. \end{array}$ | FEB | 17 0 36 | 17 13 18 |
| 24 5 16 | MAR | 21 22 10 | 21 21 52 | 23 22 42 | MAR | 18 13 20 | 19 3 11 |
| | APRIL | 20 10 54 | 20 6 10 | | 0 | (2 7 42 | 2 1 27 |
| | MAY. | 19 23 38 | 19 15 5 | | APRIL | 17 2 4 | 17 14 5 |
| 1 | 0 | (3180 | 4 3 42 | | MAY . | 16 14 48 | 16 22 35 |
| | JUNE . | 18 12 22 | 18 1 35 | · | June . | 15 3 32 | 15 5 42 |
| | July. | 18 1 6 | 17 14 24 | | JULY. | 14 16 16 | 14 12 32 |
| | Aug. | 16 13 50 | 16 5 40 | | Aug | 13 5 0 | 12 20 13 |
| | SEPT | 15 2 34 | 14 22 56 | | SEPT | (11 17 44 | 11 5 37 |
| | OUT | 14 15 18 | 14 17 7 | | 0 | 26 12 6 | 26 17 44 |
| | Nov. | (18 4 2 | 18 11 0 | | Oct | 11 6 28 | 10 17 29 |
| | 0 | 27 22 24 | 27 13 20 | | Nov | 9 19 12 | 987 |
| | DEC | 12 16 46 | 18 8 21 | | DEC | 9 7 56 | 9 1 11 |
| | | | | 70. | JAN | 7 20 41 | 7 19 47 |
| 73. | JAN | 11 5 81 | 11 17 28 | F. | FEB | 6 9 25 | 6 14 33 |
| C.B. | FEB | 9 18 15 | 10 5 9 | 24 4 31 | MAR | (722 9 | 8 7 58 |
| 28 11 5 | MAR | 10 6 59 | 10 14 37 | | 0 | 22 16 31 | 22 13 50 |
| | APRIL | 8 19 43 | 8 22 31 | | APRIL | 6 10 53 | 6 23 2 |
| | MAY . | 8 8 27 | 8 5 40 | | MAY. | 5 23 37 | 6 11 20 |
| | 0 | (28 2 49 | 28 10 27 | | June . | 4 12 21 | 4 21 10 |
| | JUNE. | 6 21 11 | 6 18 9 | | JULY. | 4 1 5 | 4 5 28 |
| | July. | 6 9 55 | 5 22 2 | | Aug | 2 13 49 | f 2 13 3 |
| | Aug | 4 22 89 | 4 9 19 | | | (1 2 33 | 131 21 9 |
| | SEPT | 8 11 28 | 2 23 33 | | SEPT. C | 15 20 55 | 15 20 30 |
| | Ост | 8 0 7 | 2 16 85 | | | (80 15 17 | 80 6 80 |
| | Nov | § 1 12 51 | 1 11 29 | | Oct | 80 4 1 | 29 17 87 |
| | 0 | (16 7 18 | 16 3 29 | | Nov | 28 16 45 | 28 6 47 |
| | DEC | J 1 1 85 | 1 6 47 | | DEC | 28 5 29 | 27 21 55 |
| | | (80 14 19 | 81 0 51 | 69. | JAN | 26 18 14 | 26 14 86 |
| 1 | | | | E.D. | FEB. | 25 6 58 | 25 7 59 |
| 72. | JAN | 29 8 4 | 29 16 29 | | | (11 1 20 | 11 6 12 |
| ۸. | FEB | 27 15 48 | 28 5 9 | 28 10 20 | MAR. | 25 19 42 | 26 1 4 |
| 28 16 54 | MAR. | 29 4 32 | 29 15 8 | | APRIL | 24 8 26 | 24 16 50 |
| | APRIL | 27 17 16 | 27 22 54 | | MAY. | 28 21 10 | 24 6 87 |
| | MAY . | 27 6 0 | 27 5 40 | | JUNE . | 22 9 54 | 22 18 19 |
| | JUNE . | 25 18 44 | 25 12 27 | | JULY. | 21 22 38 | 22 4 21 |
| | JULY . | 25 7 28 | 24 20 22 | | Aug. | 20 11 22 | 20 18 82 |
| | Aug | 28 20 12 | 28 6 27 | | 0 | (4 5 44 | |
| 1 | SEPT | 22 8 56 | 21 19 25 | H | SEPT. | 19 0 6 | |
| 1 | Oct | 21 21 40 | 21 11 27 | | Oct. | 18 12 50 | 18 8 29 |
| | Nov | 20 10 24 | 20 5 55 | | Nov. | 17 1 84 | 16 19 17 |
| 1 | DEC | 19 28 8 | 20 1 28 | | DEC | 16 14 18 | 16 7 11 |
| | | 1 | | 1 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 68. | | d. h. m. | d. h. m. | B.C. 65. | | d. h. m. | d. h. m. |
| C. | JAN | 15 3 2 | 14 20 15 | G.F. | JAN | 12 18 12 | 13 2 43 |
| March. | FEB | 13 15 46 | 13 10 28 | March. $d. h. m.$ | FEB | 11 6 56 | 11 12 58 |
| d. h. m. 23 16 9 | MAR. | 15 4 30 | 15 1 39 | 23 9 35 | MAR | 11 19 40 | 11 21 43 |
| 20 10 0 | APRIL | 13 17 14 | 13 17 24 | | APRIL | 10 8 24 | 10 5 50 |
| | MAY. | 13 5 58 | 13 9 7 | | MAY . | 9 21 8 | 914 7 |
| | JUNE . | 11 18 42 | 12 0 5 | | JUNE . | 8 9 52 | 7 23 34 |
| 1 | JULY. | 11 7 26 | 11 13 48 | | JULY. | 7 22 36 | 711 7 |
| | Aug | 9 20 10 | 10 2 10 | | Aug. | 6 11 20 | 6 1 13 |
| | SEPT | 8 8 54 | 8 13 29 | | SEPT. | 5 0 4 | 4 17 42 |
| | Oct. | 7 21 38 | 8 0 16 | | Oct | 4 12 48 | 4 11 47 |
| | Nov. | 6 10 22 | 6 10 59 | | Nov. | 3 1 32 | 3 6 11 |
| | DEC. | 5 23 6 | 5 21 47 | | DEC | 2 14 16 | 2 23 35 |
| 1 | DEC | 5250 | 9 21 11 | | D20 | | |
| 67. | JAN | (4 11 51 | 4 8 45 | | | (130 | 1 14 57 |
| В. | 0 | 19 6 13 | 19 17 11 | 64. | JAN | 80 15 44 | 31 3 48 |
| | FEB | 3 0 35 | 2 20 0 | E. | FEB | | |
| 23 21 58 | MAR. | 4 13 19 | 4 7 44 | 22 47 21 | | (1 4 29 | 1 14 12 |
| | APRIL | 3 2 3 | 2 20 21 | 23 15 24 | MAR | (80 17 18 | 30 22 39 |
| ļ | MAY . | 2 14 47 | 2 10 6 | | APRIL | 29 5 57 | 29 5 55 |
| | _ | (1 3 31 | 1 0 55 | | 0 | (14 0 19 | 14 6 30 |
| | JUNE. | 30 16 15 | 30 16 22 | | MAY. | 28 18 41 | 28 12 59 |
| | 0 | (15 10 37 | 15 4 8 | | June . | 27 7 25 | 26 20 58 |
| | JULY. | 30 4 59 | 30 7 47 | | JULY. | 26 20 9 | 26 6 58 |
| | Aug | 28 17 43 | 28 22 35 | | Aug | 25 8 58 | 24 19 45 |
| | SEPT | 27 6 27 | 27 12 27 | | SEPT | 23 21 37 | 23 11 32 |
| | Ост | 26 19 11 | 27 1 20 | | Oct | 28 10 21 | 23 5 45 |
| | Nov | 25 7 55 | 25 13 20 | | 0 | 7 4 48 | 7 2 33 |
| | DEC | 24 20 39 | 25 0 29 | | Nov | 21 23 5 | 22 1 10 |
| | 1 | | | | DEC | 21 11 49 | 21 20 7 |
| | 0 | 8 15 2 | 8 17 25 | | | | |
| 66. | JAN | 23 9 24 | 28 10 53 | 63. | JAN | 20 0 33 | 20 18 4 |
| A. | FEB | 21 22 8 | 21 20 40 | D. | FEB | 18 13 17 | 19 8 10 |
| 24 3 47 | MAR | 23 10 52 | 23 6 18 | 23 21 13 | MAR | 20 2 1 | 20 14 17 |
| | APRIL | 21 23 36 | 21 16 30 | | APRIL | 18 14 45 | 18 22 57 |
| | MAY . | 21 12 20 | 21 3 59 | | 0 | ∫ 3 9 7 | 3 7 6 |
| | JUNE. | 20 1 4 | 19 17 18 | | MAY . | 18 3 29 | 18 6 4 |
| | -0 | ∫ 4 19 26 | 4 21 18 | | June. | 16 16 13 | 16 12 41 |
| | JULY. | (19 13 48 | 19 8 24 | | JULY. | 16 4 57 | 15 19 56 |
| | Aug. | 18 2 32 | 18 0 48 | | Aυg | 14 17 41 | 14 4 54 |
| | SEPT. | 16 15 16 | 16 17 39 | | SEPT | 13 6 25 | 12 16 26 |
| | Ост. | 16 4 0 | 16 10 3 | | Oct | ∫12 19 9 | 12 7 2 |
| | Nov. | 14 16 44 | 15 1 17 | | 0 | 27 13 31 | 27 17 57 |
| | DEC | 14 5 28 | 14 14 53 | | Nov. | 11 7 53 | 11 0 26 |
| | 0 | (28 23 50 | 28 17 43 | | DEC | 10 20 87 | 10 19 89 |
| 4 | | 1 | L P | 12 | | 1 | • |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|------------------------------------|--|---|--|--------------------------------------|--|--|---|
| B.C. 62. c. March. d. h. m. 24 8 1 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT. O | d. h. m. 9 9 22 7 22 6 9 10 50 { 7 23 34 { 22 17 56 7 12 18 6 1 2 5 13 46 4 2 30 2 15 14 { 2 3 58 16 22 20 81 16 42 80 5 26 29 18 10 | d. h. m. 9 15 4 8 9 2 10 0 24 8 12 41 22 11 0 7 22 15 6 5 55 5 12 50 3 20 6 2 4 40 1 15 22 17 5 7 31 4 88 29 20 81 28 14 22 | B.C. 59. F. March. d. h. m. 28 20 28 | JAN FEB O MAR APRIL MAY . JUNE . O AUG SEPT OCT NOV DEC | d. h. m. 6 0 32 { 4 13 16 19 7 38 6 2 0 4 14 44 4 8 28 2 16 12 { 2 4 56 81 17 40 {15 12 2 30 6 24 28 19 8 28 7 52 26 20 36 26 9 20 | d. h. m. 5 17 52 4 7 15 19 20 41 5 21 40 4 12 56 4 4 35 2 19 59 2 10 29 81 23 44 14 22 19 80 11 49 28 23 5 28 9 59 26 20 50 26 7 41 |
| 61. B.A. 28 8 50 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 28 6 55 26 19 89 27 8 28 25 21 7 25 9 51 28 22 85 28 11 19 22 0 8 20 12 47 20 1 81 18 14 15 18 2 59 | 28 9 4 27 8 9 27 19 28 26 9 2 25 20 8 24 5 4 23 13 2 21 21 0 20 5 49 19 16 8 18 4 16 17 18 22 | 58. E. 24 2 17 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov | 24 22 5 { 8 16 27 23 10 49 24 28 88 28 12 17 28 1 1 21 18 45 21 2 29 { 4 20 51 19 15 18 18 8 57 17 16 41 16 5 25 | 19 18 52 18 9 82 17 28 12 16 11 50 |
| 60 g. 28 14 89 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 16 15 48 15 4 27 { 1 22 49 16 17 11 15 5 55 14 18 89 18 7 28 12 20 7 { 11 8 51 26 8 18 9 21 85 9 10 19 7 28 8 7 11 47 | 16 10 7 15 2 59 2 5 59 16 20 7 15 12 30 15 8 18 18 16 8 18 16 8 11 12 50 25 15 50 9 22 10 9 7 47 7 18 11 7 5 80 | 57. D.C. 28 8 6 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEFT OCT Nov DEC | 9 22 88 9 11 17 8 0 1 6 12 45 6 1 29 | 14 10 10 12 20 2 18 5 26 11 14 59 11 1 81 9 18 44 9 8 56 7 19 58 6 12 51 6 5 51 4 22 0 7 4 12 87 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------|
| B.C. 56. | | d. h. m. | d. h. m. | B.C. 53. | | d. h. m. | d. h. m. |
| B. March. | JAN | 2 15 42 | 3 1 23 | F.E. | JAN | 29 19 36 | 30 4 1 1 |
| d. h. m. | FEB | 1 4 26 | 1 12 16 | March. $d. h. m.$ | FEB | 28 8 20 | 28 20 51 |
| 23 13 54 | MAR. | 2 17 10 | 2 21 32 | 23 7 21 | MAR | 28 21 4 | 29 1 0 36 |
| | A | ∫ 1 5 54 | 1 5 43 | | 0 | ∫12 15 26 | 12 8 44 |
| | APRIL | ि30 18 38 | 30 13 36 | | APRIL | 127 9 48 | 27 21 25 |
| | MAY . | 30 7 22 | 29 22 12 | | MAY . | 26 22 32 | 27 5 54 |
| | 0 | ∫14 1 44 | 14 10 44 | | JUNE. | 25 11 16 | 25 13 9 |
| | JUNE . | l 28 20 6 | 28 8 32 | | JULY. | 25 0 0 | 24 20 14 |
| | JULY. | 28 8 50 | 27 21 18 | | Aug | 23 12 44 | 23 4 10 |
| | Aug | 26 21 34 | 26 12 46 | | SEPT | 22 1 28 | 21 13 51 |
| | SEPT | 25 10 18 | 25 6 21 | | 0 | 6 19 50 | 7 1 42 |
| | Oct | 24 23 2 | 25 0 56 | | Oct | 21 14 12 | 21 1 52 |
| | Nov | 23 11 46 | 23 19 12 | | Nov | 20 2 56 | 19 16 28 |
| | 0 | 1868 | 7 22 5 | | DEC | 19 15 40 | 19 9 20 |
| | DEC | 23 0 30 | 23 11 46 | | _ | 10 4 94 | 10 9 90 |
| | | | | 52. | JAN | 18 4 24 | 18 8 86 |
| 55. | Jan | 21.13 15 | 22 1 55 | | FEB | 16 17 8 | 16 21 57 |
| A. | FEB | 20 1 59 | 20 13 24 | 23 13 10 | MAR | 18 5 52 | 18 15 6 |
| 23 19 43 | MAR | 21 14 43 | 21 22 36 | | . 0 | 2 0 14 | 1 21 34 |
| | APRIL | 20 3 27 | 20 6 12 | | APRIL | 16 18 36 | 17 6 1 |
| | MAY . | 19 16 11 | 19 13 7 | | MAY . | 16 7 20 | 16 18 19 |
| | 0 | 3 10 33 | 3 17 2 | | JUNE. | 14 20 4 | 15 4 21 |
| | JUNE. | 118 4 55 | 17 20 27 | | JULY. | 14 8 48 | 14 12 52 |
| | JULY. | 17 17 39 | 17 5 19 | | Aug | 12 21 32 | 12 20 58 |
| | Aug | 16 6 23 | 15 1 6 40 | | SEPT | 11 10 16 | 11 5 28 |
| | SEPT | 14 19 7 | 14 7 2 | | 0 | 26 4 88 | 26 8 56 |
| | Oct | 14 7 51 | 14 0 16 | | Oct | 10 28 0 | 10 15 8 |
| | Nov | <i>{</i> 12 20 35 | 12 19 23 | | Nov. | 9 11 44 | 9 2 18 |
| | _ 0 | 127 14 57 | 27 12 26 | | DEC | 9 0 28 | 8 15 28 |
| | DEC | 12 9 19 | 12 14 50 | 51. | JAN | 7 18 18 | 7 6 11 |
| 54. | JAN. | 10.00 | 11 0 5 | C. | FEB | 6 1 57 | 5 22 19 |
| о ч . G. | FEB. | 10 22 3 | 11 8 57 | 23 18 59 | MAR | ∫ 7 14 41 | 7 15 11 |
| 24 1 32 | MAR. | 9 10 47 10 23 31 | 10 0 29 | | 0 | 22 9 3 | 22 14 11 |
| -E 1 02 | APRIL | 9 12 15 | 11 13 0 | | APRIL | 6 8 25 | 6 7 51 |
| | MAY . | 9 0 59 | 9 22 42 | | MAY. | 5 16 9 | 5 28 27 |
| | JUNE . | 7 13 43 | 9 6 22 | | JUNE. | 4 4 58 | 4 13 21 |
| | JULY . | 7 2 27 | 7 13 5 | | JULY. | 3 17 37 | 4 1 21 |
| | AUG. | 5 15 11 | 6 1 9 55 5 3 58 | | Aug | § 2 6 21 | 2 11 50 |
| | SEPT. | 4 3 55 | 5 3 58 3 14 13 | | | \81 19 5 | 81 21 81 |
| | Ocr. | 3 16 39 | 3 3 21 | | 0 | ∫15 13 27 | 15 8 42 |
| | Nov. | 2 5 23 | 1 19 28 | | SEPT | 30 7 49 | 80 7 9 |
| | | 1 18 7 | 1 | 1 | Oct | 29 20 33 | 29 17 17 |
| | DEC. | 31 6 51 | 1 13 55 31 9 22 | | Nov | 28 9 17 | 28 4 10 |
| | 1 | 102 0 01 | 01 9 22 | | DEC | 27 22 1 | 27 15 55 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-----------------------------|--------|---|------------------------------------|----------------------------|--------|--|------------------------------|
| B.C. 50. B. March. | JAN | d. h. m. 26 10 46 | d. h. m. 26 4 34 | B.C. 47. | 0 | d. h. m. | d. h. m. 8 1 48 |
| d. h. m. | FEB | 24 23 30 | 24 18 11 | March. | JAN | 23 1 56 | 23 11 22 |
| 24 0 47 | Mar | 26 12 14 | 26 8 45 | d. h. m. | FEB | 21 14 40 | 21 21 15 |
| } | APRIL | 25 0 58 | 25 0 5 | 23 18 14 | MAR | 23 3 24 | 23 5 42 |
| | MAY . | 24 13 42 | 24 15 36 | | APRIL | 21 16 8 | 21 13 25 |
| | June . | 23 2 26 | 23 6 39 | | MAY . | 21 4 52 | 20 21 23 |
| | July. | 22 15 10 | 22 20 44 | | June. | 19 17 36 | 19 6 37 |
| | Aug | 21 3 54 | 21 9 40 | | 0 | ∫ 4 11 58 | 4 1 9 19 |
| | Sept | 19 16 38 | 19 21 35 | | JULY. | 19 6 20 | 18 18 4 |
| | Oct | 19 5 22 | 19 8 52 | | Aug | 17 19 4 | 17 8 16 |
| | Nov | 17 18 6 | 17 19 53 | | SEPT | 16 7 48 | 16 1 0 |
| | DEC | 17 6 50 | 17 6 45 | | Oct | 15 20 32 | 15 1 9 28 |
| | | | | | Nov | 14 9 16 | 14 14 14 |
| 49. | JAN | (15 19 34 | 15 17 30 | | DEC | 13 22 0 | 14 7 54 |
| A.G. | 0 | 30 13 56 | 31 1 1 | | JAN | 12 10 44 | 12 23 21 |
| | FEB | 14 8 18 | 14 4 15 | 46. | FEB. | 10 23 28 | 11 12 5 |
| 23 6 36 | MAR. | 14 21 2 | 14 15 24 | 24 0 3 | MAR. | 12 12 12 | 12 22 15 |
| | APRIL | 13 9 46 | 13 3 27 | 24 0 5 | APRIL | 11 0 56 | 11 6 24 |
| 1 | MAY. | 12 22 30 | 12 16 45 | | 1 | 10 13 40 | 10 13 25 |
| | June . | 11 11 14 | 11 7 23 | | MAY . | 9 2 24 | 8 20 20 |
| | JULY. | (10 23 58 | 10 22 54 | | JUNE . | 8 15 8 | 8 4 17 |
| | 0 | 25 18 20 | 25 11 45 | | Aug. | 7 3 52 | 6 14 19 |
| 1 | Aug. | 9 12 42 | 9 14 42 | | | 5 16 36 | 5 3 13 |
| | SEPT. | 8 1 26 | 8 6 4 | | SEPT | 5 5 20 | |
| | Oct. | 7 14 10 | 7 20 34 | | | 3 18 4 | |
| | Nov. | 6 2 54 | 6 9 57 | | Nov. | 18 12 26 | |
| | DEC | 5 15 38 | 5 22 12 | | DEC. | 3 6 48 | |
| 4 8. | JAN | \{\begin{array}{cccccccccccccccccccccccccccccccccccc | 4 9 21 19 1 10 | 45. | JAN | $ \begin{cases} 1 & 19 & 38 \\ 31 & 8 & 17 \end{cases} $ | |
| | Evan | | 2 19 28 | C.B. | FEB | 29 21 1 | |
| 09 10 05 | FEB. | 2 17 7 | 4 4 49 | | | | ∫ 1 11 2 |
| 23 12 25 | MAR. | 1 | 2 13 57 | 23 5 52 | MAR. | 80 9 45 | |
| | APRIL | 2 18 35 | 1 28 39 | | APRIL | 28 22 29 | i |
| | MAY . | $\begin{cases} 2 & 7 & 19 \\ 91 & 90 & 9 \end{cases}$ | 1 | | 0 | ∫13 16 5: | 1 13 13 39 |
| | T | 181 20 3 | 29 23 55 | | MAY . | 128 11 1 | 3 28 13 31 |
| | JUNE . | 30 8 47 | | | JUNE . | 26 23 57 | 7 26 20 10 |
| | 0 | 15 8 9 | | | JULY . | 26 12 43 | 1 26 3 33 |
| | JULY . | 129 21 31 | | | Aug. | 25 1 25 | 5 24 12 41 |
| | Aug | 28 10 15 | 1 | | SEPT. | 28 14 9 | 9 23 0 23 |
| | SEPT. | 26 22 59 | 27 1 11 | | Oct. | . 28 2 5 | 3 22 15 6 |
| | Oct | 26 11 43 | | | 0 | 6 21 1 | 5 7 2 42 |
| | Nov. | | 25 9 47 | | Nov. | . {21 15 8 | 7 21 8 30 |
| | DEC | 24 13 11 | 24 23 35 | | DEC. | . 21 4 2 | 1 21 8 85 |
| | | 1 | | 11 | 1 | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 44, | | d. h. m. | d. h. m. | B.C. 41. | | d. h. m. | d. h. m. |
| A. | JAN | 19 17 5 | 19 22 48 | E.D. | JAN | 17 8 16 | 17 2 23 |
| March. | FEB | 18 5 50 | 18 16 36 | d. h. m. | FEB | 15 21 0 | 15 15 13 |
| d. h. m. 23 11 40 | MAR | 19 18 34 | 20 7 47 | W. 12. 112. | 0 | (1 15 22 | 2 4 41 |
| | APRIL | 18 7 18 | 18 19 59 | 23 5 7 | MAR | 16 9 44 | 16 5 1 |
| | 0 | (3 1 40 | 2 18 1 | | APRIL | 14 22 28 | 14 19 45 |
| | MAY. | 17 20 2 | 18 5 32 | | MAY. | 14 11 12 | 14 11 5 |
| | JUNE . | 16 8 46 | 16 13 19 | | June. | 12 23 56 | 13 2 28 |
| | JULY. | 15 21 30 | 15 20 27 | | JULY. | 12 12 40 | 12 17 13 |
| | Aug. | 14 10 14 | 14 8 59 | | Aug | (11 1 24 | 11 6 59 |
| | SEPT | 12 22 58 | 12 12 51 | | 0 | 25 19 46 | 25 5 58 |
| 1 | Oct | (12 11 42 | 11 23 45 | | SEPT | 9 14 8 | 9 19 40 |
| | 0 | 27 6 4 | 27 13 23 | | Ост | 9 2 52 | 9 7 30 |
| | Nov | 11 0 26 | 10 13 5 | | Nov. | 7 15 86 | 7 18 49 |
| | DEC | 10 13 10 | 10 13 3 | | DEC. | 7 4 20 | 7 5 49 |
| | DEG. | 10 10 10 | 10 4 40 | | DEC | 1 4 20 | 1 5 40 |
| | | | | 40. | JAN | 5 17 4 | 5 16 88 |
| 43. G. | JAN | 9 1 54 | 8 22 20 | C. | FEB | (4 5 48 | 4 3 5 |
| | FEB | 7 14 38 | 7 16 36 | | 0 | 19 0 10 | 19 12 56 |
| 23 17 29 | MAR. | 9 3 22 | 9 10 19 | 23 10 56 | MAR. | 5 18 32 | 5 13 42 |
| | APRIL | 7 16 6 | 8 2 21 | | APRIL | 4 7 16 | 4 0 57 |
| | MAY . | 7 4 50 | 7 15 57 | | MAY. | 8 20 0 | 3 13 21 |
| | JUNE. | 5 17 34 | 6 3 7 | • | | 2 8 44 | 2 8 11 |
| 1 | JULY. | 5 6 18 | 5 12 24 | | JUNE. | (12128 | 1 18 19 |
| | AUG | 3 19 2 | 3 20 44 | | JULY . | 31 10 12 | |
| | SEPT | 2 7 46 | 2 5 6 | | | 4 | 81 10 12 |
| | Ост | ∫ 1 20 30 | 1 14 18 | | • | 15 4 84 | 14 19 89 |
| | | 31 9 14 | 31 0 50 | | Aug | 29 22 56 | 80 2 7 |
| 1 | Nov | 29 21 58 | 29 12 59 | | SEPT | 28 11 40 | 28 17 24 |
| | DEC | 29 10 42 | 29 2 48 | | OCT. | 28 0 24 | 28 7 38 |
| ŀ | | | | | Nov | 26 13 8 | 26 20 37 |
| 42. | JAN | 27 23 26 | 27 18 5 | | DEC | 26 1 52 | 26 8 21 |
| F. | FEB | 26 12 11 | 26 10 23 | 39. | Jan. | 04 14 97 | 04 10 50 |
| | 0 | ∫13 6 33 | 13 14 5 | В, | FEB | 24 14 87 28 8 21 | 24 18 58 28 4 22 |
| 23 23 18 | MAR | 28 0 55 | 28 3 3 | 23 16 45 | | | |
| | APRIL | 26 13 39 | 26 19 10 | 20 10 40 | MAR | 24 16 5 28 4 49 | 24 13 16 |
| | MAY . | 26 2 23 | 26 9 58 | | APRIL | | 22 22 20 |
| | JUNE . | 24 15 7 | 24 23 0 | | MAY. | 22 17 33 | 22 8 29 |
| | JULY . | 24 3 51 | 24 10 23 | | JUNE. | 21 6 17 | 20 20 27 |
| 1 | Aug | 22 16 35 | 22 20 38 | | JULY. | 20 19 1 | 20 10 88 |
| 1. | 0 | ∫ 6 10 57 | 5 23 11 | | Avg | 19 7 45 | 19 2 48 |
| 1 | SEPT | 21 5 19 | 21 6 28 | | SEPT | 17 20 29 | 17 20 11 |
| | Ocr | 20 18 3 | 20 16 29 | | Oct. | 17 9 18 | 17 18 44 |
| | Nov | 19 6 47 | 19 3 5 | | Nov. | 15 21 57 | 16 6 20 |
| | DEC | 18 19 31 | 18 14 22 | | DEC | 15 10 41 | 15 21 15 |
| | | | | | 0 | 180 5 3 | 29 21 38 |
| | | | | 1 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|---|------------------------------------|----------------------------|--------|--|------------------------------------|
| B.C. 38. | | d. h. m. | d. h. m. | B.C. 35. | | d. h. m. | d. h. m. |
| March. | JAN | 13 23 25 | 14 10 2 | D. | JAN | 10 14 35 | 10 17 11 |
| d. h. m. | FEB | 12 12 9 | 12 20 43 | March. $d. h. m.$ | FEB | 9 3 19 | 9 11 44 |
| 23 22 33 | MAR | 14. 0 53 | 14 5 39 | 23 16 0 | MAR | 10 16 3 | 11 4 14 |
| | APRIL | 12 13 37 | 12 13 25 | | APRIL | (9 4 47 | 9 17 51 |
| | MAY . | 12 2 21 | 11 20 59 | | 0 | 123 23 9 | 23 15 56 |
| | June . | (10 15 5 | 10 5 20 | | MAY . | 8 17 31 | 9 4 37 |
| | 0 | 125 9 27 | 25 17 45 | | June . | 7 6 15 | 7 13 13 |
| | JULY. | 10 3 49 | 9 15 32 | | July. | 6 18 59 | 6 20 33 |
| | Aug | 8 16 33 | 8 4 21 | | Aug. | 5 7 43 | 5 3 59 |
| | SEPT. | 7 5 17 | 6 19 59 | | SEPT. | 3 20 27 | 3 12 15 |
| | Ocr | 6 18 1 | 6 13 53 | | Oct. | (3 9 11 | 2 22 11 |
| 5 | Nov. | 5 6 45 | 5 8 50 | | 007. | 18 3 33 | 18 9 43 |
| | DEC. | (4 19 29 | 5 3 22 | | Nov | 1 21 55 | 1 10 21 |
| | 0 | 19 18 51 | 19 6 49 | | 1107 | (1 10 39 | 1 0 52 |
| | | 120 20 02 | 10 0 10 | | Dec | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 30 17 27 |
| 37. | JAN | 3 8 14 | 3 20 7 | | | | |
| G.F. | 777 | 1 20 58 | 2 10 12 | 34. | JAN | 29 12 8 | 29 11 17 |
| | FEB | (2 9 42 | | С. | FEB | 28 0 52 | 28 5 14 |
| 23 4 22 | MAR | 31 22 26 | 2 21 30 | 23 21 49 | MAR | 29 13 36 | 29 22 5 |
| | A | 30 11 10 | 1 6 25 | | 0 | $\{13 \ 7 \ 58$ | 13 5 14 |
| | APRIL | | 130 13 47 | | APRIL | 128 2 20 | 28 12 54 |
| | MAY. | 29 23 54 | 29 20 32 | | MAY . | 27 15 4 | 28 1 17 |
| | 0 | 13 18 16 | 13 23 36 | | JUNE . | 26 3 48 | 26 11 32 |
| | JUNE. | 128 12 38 | 28 3 48 | | JULY . | 25 16 32 | 25 20 24 |
| | JULY. | 28 1 22 | 27 12 42 | | Aug | 24 5 16 | 24 4 52 |
| | Aug | 26 14 6 | 26 0 9 | ĺ | SEPT | 22 18 0 | 22 13 46 |
| | SEPT | 25 2 50 | 24 14 42 | | 0 | 7 12 22 | 7 11 31 |
| | Oct | 21 15 34 | 24 8 5 | | Oct | 122 6 44 | 21 23 44 |
| | Nov | 23 4 18 | 23 3 19 | | Nov | 20 19 28 | 20 11 6 |
| | . 0 | \\\ \begin{pmatrix} .7 \\ 22 \\ 40 \\ \ 22 \\ 17 \\ \ \ 20 \\ \ \ \ \ \ \ \ \ \ \ \ \ \ | 7 21 23 | | DEC | 20 8 12 | 20 0 0 |
| | DEC | 122 17 2 | 22 22 49 | 33. | JAN | 18 20 57 | 18 14 22 |
| | | | | B.A. | FEB. | 17 9 41 | 17 5 58 |
| 36. | Jan | 21 5 47 | 21 16 52 | 23 3 38 | MAR. | 17 22 25 | 17 22 16 |
| E. | FEB | 19 18 31 | 20 8 20 | | ,0 | (1 16 47 | 1 22 4 |
| 23 10 11 | MAR | 21. 7 15 | 21 20 41 | | APRIL | 16 11 9 | 16 14 34 |
| | APRIL | 19 19 59 | 20 6 14 | , | MAY. | 15 23 53 | 16 6 3 |
| | MAY . | 19 8 48 | 19 13 51 | ł | JUNE. | 14 12 37 | 14 20 3 |
| | JUNE . | 17 21 27 | 17 20 33 | | JULY. | 14 1 21 | 14 8 26 |
| | JULY. | 17 10 11 | 17 3 30 | | Aug. | 12 14 5 | 12 19 24 |
| | Aug | 15, 22 55 | 15 11 44 | | SEPT. | (11 2 49 | 11 5 38 |
| | SEPT | 14.11 39 | 13 22 10 | 1 | 0 | 25 21 11 | 25 11 13 |
| | Oct | 14 0 23 | 13 11 27 | | OCT. | 10 15 33 | 10 15 44 |
| | Nov | 12 13 7 | 12 8 85 | 1 | Nov. | 9 4 17 | 9 2 11 |
| | DEC | 12. 1 51 | 11 21 56 | | DEC. | 8 17 1 | 8 13 7 |
| | | | | | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|-------------|------------------------------------|------------------------------------|
| B.C. 32. | | d. h. m. | d. h. m. | P.C | | d. h. m. | d. h. m. |
| G. | Jan | 7 5 45 | 7 0 37 | B.C. 29. | JAN | (4 20 55 | 5 8 14 |
| March. | FEB | 5 18 29 | 5 12 47 | D.C. | 0 | 19 15 17 | 19 9 50 |
| d. h. m. 23 9 26 | MAR. | 7 7 13 | 7 1 46 | March. | FEB. | 3 9 39 | 3 19 52 |
| 20 0 20 | APRIL | 5 19 57 | 5 15 46 | d. h. m. 23 2 53 | MAR. | 3 22 23 | 4 5 27 |
| | MAY. | 5 8 41 | 5 6 39 | 10 1 00 | APRIL | 2 11 7 | 2 13 32 |
| | June . | 3 21 25 | 3 22 1 | | 111111 | (1 28 51 | 1 20 56 |
| | JULY. | 3 10 9 | 3 13 14 | | MAY. | 31 12 35 | 31 4 38 |
| 4 | 0011. | (1 22 53 | 2 3 44 | | June . | 30 1 19 | 29 13 43 |
| | Aug | 31 11 37 | 31 17 14 | | | (14 19 41 | 15 2 33 |
| | SEPT | 30 0 21 | 30 5 46 | | O July. | 29 14 3 | 29 1 9 |
| | | 29 13 5 | 29 17 33 | | | 28 2 47 | 27 15 28 |
| 1 11 | Oct Nov | 28 1 49 | 28 4 49 | | Aug Sept | 26 15 31 | |
| | _ | 27 14 33 | 27 15 40 | | | 26 4 15 | 26 8 28 |
| | DEC | 21 14 99 | 41 10 40 | | Oct | | 26 8 18 |
| | | | | | Nov. | 24 16 59 | 24 22 17 |
| 31. F. | JAN | 26 3 18 | 26 2 9 | | DEC | 24 5 48 | 24 16 9 |
| r. | 0 | § 9 21 40 | 10 8 43 | 28. | JAN | 22 18 28 | 00 7 90 |
| | FEB | 24 16 2 | 24 12 25 | В. | FEB. | 21 7 12 | 28 7 88 |
| 23 15 15 | Mar | 26 4 46 | 25 22 59 | 23 8 42 | | 22 19 56 | 21 20 14 |
| | APRIL | 24 17 30 | 24 10 29 | 20 0 42 | MAR. | 21 8 40 | 28 6 9 |
| , | MAY . | 24 6 14 | 23 23 24 | | APRIL | | 21 14 3 |
| | JUNE . | 22 18 58 | 22 13 52 | | MAY. | 20 21 24 | 20 20 58 |
| | JULY. | 22 7 42 | 22 5 33 | | June. | 19 10 8 | 19 3 44 |
| | 0 | 6 2 4 | 5 19 32 | | July. | 18 22 52 | 18 11 42 |
| | Aug | 20 20 26 | 20 21 45 | | Aug | 17 11 86 | 16 21 49 |
| | SEPT | 19 9 10 | 19 13 42 | | SEPT | 16 0 20 | 15 10 52 |
| | Oct | 18 21 54 | 19 4 47 | | Oct | 15 13 4 | 15 2 59 |
| | Nov | 17 10 38 | 17 18 38 | | Nov | 14 1 48 | 18 21 32 |
| | DEC | 16 23 22 | 17 7 5 | | _ 0 | 28 20 10 | 28 20 28 |
| | | | | | DEC | 13 14 32 | 13 17 8 |
| 30. | JAN | (15 12 7 | 15 18 10 | 27. | T | 12 3 17 | 12 12 6 |
| E. | 0 | 30 6 29 | 30 8 49 | A. | JAN | 10 16 1 | 11 4 55 |
| | FEB | 14 0 51 | 14 3 57 | 23 14 31 | FEB. | | 12 18 44 |
| 23 21 4 | MAR | 15 13 35 | 15 12 50 | 20 14 01 | MAR. | 12 4 45 | 11 5 81 |
| | APRIL | 14 2 19 | 13 21 30 | | APRIL | | 10 13 57 |
| | MAY . | 13 15 3 | 13 6 47 | | MAY. | 10 6 18 | |
| | JUNE . | 12 3 47 | 11 17 37 | | _ 0 | 125 0 85 | 24 20 12 |
| | JULY . | (11 16 31 | 11 6 38 | | JUNE. | 8 18 57 | 8 20 57 |
| | 0 | 26 10 53 | 26 12 28 | | JULY. | 8 7 41 | 8 8 48 |
| | Aug | 10 5 15 | 9 21 57 | | A.UG. | 6 20 25 | 6 11 16 |
| | SEPT | 8 17 59 | 8 15 2 | | SEPT | 5 9 9 | 4 20 87 |
| | Ост | 8 6 43 | 8 8 52 | | Oct. | 4 21 53 | 4 8 81 |
| | Nov | 6 19 27 | 7 2 19 | | Nov | ∫ 3 10 37 | 2 23 18 |
| | DEC | 6 8 11 | 6 18 19 | | _0 | (18 4 59 | 18 11 29 |
| | | | 1 | | DEC | 2 23 21 | 2 16 37 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|-----------------------------|---|---|---|---|--|--|--|
| B.C. 26. G. March. | Fев | d. h. m. (1 12 5) (31 0 49) (1 13 38) | d. h. m. 1 11 30 31 6 27 2 0 0 | B.C. 23. c. March. d. h. m. 23 13 46 | Jan Feb O Mar | d. h. m. 27 15 59 26 4 43 {12 23 5 27 17 27 | d. h. m. 27 10 48 25 28 4 13 12 30 27 12 15 |
| 28 20 19 | APRIL O | 29 15 1 (14 9 23) (29 3 45) | 31 15 1 30 3 8 14 0 58 29 12 45 27 20 43 27 4 6 25 11 58 23 21 9 | | APRIL MAY . JUNE . JULY . AUG O SEPT OCT | 26 6 11 25 18 55 24 7 39 23 20 23 22 9 7 6 3 29 20 21 51 20 10 35 | 26 2 27 25 17 31 24 8 55 24 0 1 22 14 18 5 13 46 21 3 36 20 16 0 |
| 25. F.E. | OCT ONOV DEC JAN FEB | 23 19 25 7 13 47 22 8 9 21 20 53 20 9 38 18 22 22 | 23 8 15 7 21 42 21 21 36 21 13 5 20 6 13 19 0 2 | 22. B. | Nov DEC JAN FEB | 18 23 19 18 12 3 17 0 48 15 13 32 2 7 54 | 19 3 42 18 14 47 17 1 20 15 11 26 2 20 28 |
| 28 2 8 | MAR APRIL MAY. JUNE. JULY. AUG SEPT OCT Nov | 19 11 6 17 28 50 17 12 84 16 1 18 15 14 2 14 2 46 12 15 30 12 4 14 10 16 58 10 5 42 | 19 17 22 18 9 11 17 22 47 16 10 9 15 19 47 14 4 32 12 13 22 11 22 55 10 9 39 9 21 44 | 28 19 85 | MAR APRIL MAY JUNE JULY. AUG O SEPT OCT NOV | 17 2 16 15 15 0 15 3 44 13 16 28 13 5 12 (11 17 56 26 12 18 10 6 40 9 19 24 8 8 8 | 16 21 82 15 8 12 14 20 8 13 9 44 18 0 58 11 17 5 26 8 39 10 9 31 10 1 23 8 16 8 |
| 24. D. 23 7 57 | DEC JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT | 8 18 26 7 7 10 { 8 19 54 23 14 16 7 8 38 6 21 22 5 10 6 4 22 50 8 11 34 { 2 0 18 16 18 40 { 1 18 2 | 8 11 13 7 1 57 8 17 41 23 22 2 7 9 50 7 1 42 5 16 32 5 5 52 3 17 44 2 4 32 16 6 41 1 14 53 | 21. A.G. 28 1 24 | Jan Feb Mar Aprill May . June . July Aug. Sept. Oct. | 6 9 36 4 22 20 5 11 4 3 23 48 3 12 32 2 1 16 { 1 14 0 31 2 44 29 15 28 | 5 12 32 3 21 0 3 5 39 1 15 26 1 3 14 30 17 27 3 29 9 52 2 28 3 41 |
| | Nov Dec | (31 1 46 29 14 30 29 3 14 | 31 1 19 29 12 3 28 23 12 | | Nov. Dec. | . 26 5 40 . 25 18 24 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|---|---|---|----------------------------|--|--|---|
| B.C. 20. F. March. d. h. m. 23 7 12 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG | d. h. m. \[\begin{array}{cccccccccccccccccccccccccccccccccccc | d. h. m. 9 5 52 24 18 34 23 5 1 24 13 36 22 21 4 22 4 22 20 12 32 6 0 48 19 22 41 18 11 34 | | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT | d. h. m. 21 22 19 20 11 3 20 23 47 19 12 31 { 4 6 53 19 1 15 17 13 59 17 2 43 15 15 27 14 4 11 | (O Full Ecl.) d. h. m. 22 0 56 20 19 11 21 11 27 20 0 58 3 28 5 19 11 48 17 20 32 17 4 12 15 11 53 18 20 80 |
| | SEPT OCT Nov DEC | 17 18 1 17 1 45 15 14 29 (15. 8 18 29 21 35 | 17 3 23 16 21 33 15 16 48 15 11 32 29 15 33 | 16. | Oct O Nov Dec Jan | 13 16 55 28 11 17 12 5 39 11 18 23 10 7 8 | 13 6 42 28 17 51 11 18 57 11 9 20 10 1 34 |
| 19. E. 28 13 1 | JAN FEB MAR | 13 15 58 12 4 42 13 17 26 | 14 4 20 12 18 21 14 5 27 | 23 6 28 | FEB MAR APRIL | 8 19 52 10 8 36 (8 21 20 | 8 18 54 10 12 23 9 4 55 |
| | APRIL MAY . JUNE . | 12 6 10 11 18 54 (10 7 38 | 12 14 8 11 21 18 10 3 58 | | O May . June . | 23 15 42 8 10 4 6 22 48 | 23 12 49 8 19 38 7 8 10 |
| | JULY . AUG SEPT | 9 20 22 8 9 6 6 21 50 | 25 6 11 9 11 14 7 20 13 6 7 49 | | JULY . AUG SEPT OCT | 6 11 32 5 0 16 3 13 0 (3 1 44 | 6 18 45 5 4 8 3 12 58 2 22 17 |
| | Oct Nov Dec | 6 10 34 4 23 18 4 12 2 | 5 22 30 4 16 0 4 11 17 | | Nov DEC | 17 20 6 1 14 28 1 3 12 30 15 56 | 17 19 14 { 1 8 32 30 19 57 |
| 18. D. | Jan Feb | 8 0 46 1 13 30 | 19 6 22 3 6 44 2 0 43 | 15. e. 28 12 17 | JAN FEB MAR | 29 4 40 27 17 24 29 6 8 | 30 8 36 28 22 29 27 13 28 29 5 13 |
| 23 18 50 | MAR APRIL MAY. | 3 2 14 1 14 58 1 3 42 30 16 26 | 3 16 1 2 4 13 1 13 40 | | O APRIL MAY . | 13 0 80 27 18 52 27 7 86 | 13 5 47 27 21 8 27 12 31 |
| | JUNE . JULY . Aug | 29 5 10 28 17 54 27 6 38 | 30 21 14 29 4 8 28 11 9 26 19 37 | | JUNE . JULY . AUG | 25 20 20 25 9 4 23 21 48 | 26 2 44 25 15 33 24 3 5 |
| | SEPT OCT Nov DEC | 25 19 22 25 8 6 28 20 50 28 9 34 | 25 6 17 24 19 40 28 11 46 | | SEPT O OCT Nov | 22 10 32 { 7 4 54 21 23 16 20 12 0 | 22 13 52 6 18 54 22 0 25 20 11 7 |
| | | 20 0 04 | 28 5 56 | | DEC | 20 0 44 | 19 22 2 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|-------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| B.C. 14. F. | Jan | d. h. m. | d. h. m. 18 9 15 | B.C. | Jan. | d. h. m. | d. h. m. 15 16 45 |
| March. | FEB | 17 2 13 | 16 20 52 | в. | 0 | 29 23 1 | 29 17 46 |
| d. h. m. 23 18 5 | Mar. | 18 14 57 | 18 9 16 | March. | FEB | 13 17 23 | 14 4 14 |
| 20 10 0 | APRIL | 17 3 41 | 16 22 41 | d. h. m. 23 11 32 | MAR. | 15 6 7 | 15 13 32 |
| | MAY . | 16 16 25 | 16 13 10 | -0 0- | APRIL | 13 18 51 | 13 21 17 |
| | June . | 15 5 9 | 15 4 28 | | MAY. | 13 7 35 | 13 4 24 |
| | July. | 14 17 53 | 14 19 53 | ł | JUNE . | 11 20 19 | 11 11 54 |
| | Aug. | 13 6 37 | 13 10 52 | | JULY. | (11 9 3 | 10 20 54 |
| | SEPT. | 11 19 21 | 12 0 57 | | 0 | 26 3 25 | 26 9 51 |
| | Oct | 11 8 5 | 11 14 5 | | Aug. | 9 21 47 | 9 8 22 |
| | Nov. | 9 20 49 | 10 2 19 | | SEPT. | 8 10 31 | 7 22 50 |
| | DEC. | 9 9 33 | 9 13 47 | | OCT. | 7 23 15 | 7 16 3 |
| | DEG. | 0 000 | 0 10 1. | | Nov. | 6 11 59 | 6 11 4 |
| | - | 7 00 10 | 0 0 00 | | DEC. | 6 0 43 | 6 6 23 |
| 13. E.D. | JAN | 7 22 18 | 8 0 33 | | DEC | | 0 0 20 |
| E.D. | FEB | 6 11 2 | 6 10 40 | 10. | JAN | 4 13 28 | 5 0 21 |
| | 0 | (21 5 24 | 21 16 16 | Α. | FEB. | 3 2 11 | 3 15 45 |
| 22 23 54 | MAR. | 6 23 46 | 6 20 27 | 23 17 21 | MAR. | 4 14 55 | 5 4 12 |
| | APRIL | 5 12 30 | 5 6 28 | 20 21 22 | APRIL | 3 3 39 | 3 13 54 |
| | MAY. | 5 1 14 | 4 17 28 | | MAY. | 2 16 23 | 2 21 37 |
| 1 | JUNE . | 3 13 58 | 3 6 2 | | | f 1 5 7 | 1 4 19 |
| | JULY. | 3 2 42 | 2 20 25 | | June. | 80 17 51 | 30 11 9 |
| | | 1 15 26 | 1 12 16 | | JULY. | 30 6 35 | 29 19 12 |
| 0.1 | Aug. O | 16 9 48 | 16 3 25 | | Aug. | 28 19 19 | 28 5 28 |
| | | 81, 4 10 | 31 4 55 | | SEPT. | 27 8 3 | 26 18 41 |
| | SEPT | 29 16 54 | 29 21 26 | | Oct. | 26 20 47 | 26 10 55 |
| | Oct | 29 5 38 | 29 13 5 | | Nov. | 25 9 31 | 25 5 31 |
| | Nov | 27 18 22 | 28 3 20 | | 0 | (10 3 53 | 10 5 27 |
| | DEC | 27 7 6 | 27 15 54 | | DEC | 24 22 15 | |
| 12. | JAN | 25 19 50 | 26 2 49 | 9. | JAN. | 23 10 59 | 23 19 54 |
| C. | 0 | (9 14 12 | 9 16 19 | G.F. | FEB. | 21 23 44 | 22 12 34 |
| | FEB. | 24 8 34 | 24 12 17 | 22 23 10 | MAR. | 22 12 28 | 23 2 15 |
| 23 5 43 | MAR. | 25 21 18 | 25 20 45 | 20 10 | APRIL | 21 1 12 | 21 12 56 |
| | APRIL | 24 10 2 | 24 4 58 | | MAY . | 20 13 56 | 1 |
| | MAY . | 23 22 46 | 23 13 54 | 1 | 0 | (4 8 18 | 1 |
| | JUNE . | 22 11 30 | 22 0 29 | | JUNE . | 19 2 40 | |
| | JULY . | 22 0 14 | 21 13 28 |]] | JULY . | 18 15 24 | |
| | 0 | (5 18 36 | 5 20 11 | 1 | Aug. | 17. 4. 8 | |
| | Aug. | 20 12 58 | 20 4 56 | | SEPT. | 15 16 52 | |
| | SEPT | 19 1 42 | 18 22 20 | | Oct. | 15 5 36 | |
| | Oct. | 18 14 26 | 18 16 38 | 1 | Nov. | (13 18 20 | |
| | Nov. | 17 3 10 | 17 10 30 | | 0 | 28 12 42 | |
| | DEC. | 1 -0 | 17 2 47 | | DEC | T | 1 |
| | | | | [] | 1 | | |

| | | | - INCOMEM | | | Mittory submit a - A | s the total meadwards |
|----------------------------|--------|--|------------------------------------|----------------------------|--------|--|-----------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon, (O Full Ecl. | True New Moon. |
| B.C. 8. | | d. h. m. | d. h. m. | B.C. 5. | | d. h. m. | d. h. m. |
| E. | JAN. , | 11 19 49 | 11 19 20 | B.A. | JAN | 9 10 59 | 9 7 59 |
| March. | FEB. | 10 8 33 | 10 13 59 | March. | FEB. | 7 28 48 | 7 19 9 |
| d. h. m. 23 4 58 | MAR. | 11 21 17 | 12 7 14 | d. h. m. | 1 | (8 12 27 | 8 6 49 |
| 20 ± 00 | APRIL | 10 10 1 | | 22 22 25 | MAR. | 13 | |
| | MAY. | (9 22 45 | 10 22 6 | | 0 | (23 6 49 7 1 11 | 28 20 11 6 19 24 |
| į | 0 | 24 17 7 | 24 7 56 | | APRIL | | 1 |
| | June . | 8 11 29 | 8 19 57 | | MAY . | | 6 9 9 4 28 59 |
| | July. | 8 0 13 | 8 4 10 | | JUNE . | | 4 15 28 |
| | Aug. | 6 12 57 | 6 11 53 | | JULY . | | 1 |
| | SEPT. | 5 1 41 | | | Aug | 8 4 7 | 8 6 56 |
| | Oct. | 4 14 25 | 1 | | SEPT | 1 16 51 | 1 21 46 |
| | Nov | (3 3 9 | 4 5 37 2 16 53 | | 0 | (16 11 18 | 15 21 45 |
| | 0 | 17 21 31 | | | Oct | $\begin{cases} 1 & 5 & 85 \\ 00 & 10 & 10 \end{cases}$ | 1 11 41 |
| | Ŭ | (2 15 53 | 18 6 5 2 6 10 | | 77 | 180 18 19 | 81 0 87 |
| | DEC | 1 10 00 | 31 21 22 | | Nov. | 29 7 8 | 29 12 86 |
| | | · ··· | 01 21 22 | | DEC | 28 19 47 | 28 28 42 |
| 7. | JAN | ∫ 1 4 37 | | | | | |
| D. | | \text{\lambda}{30} \text{\colored}{17} \text{\colored}{21} | 30 14 0 | 4. | JAN | 27 8 81 | 27 10 0 |
| | Feb | ••• | | G. | FEB | 25 21 15 | 25 19 40 |
| 23 10 47 | MAR | § 1 6 5 | 1 7 18 | | 0 | §12 15 87 | 18 8 50 |
| | | (80 18 49 | 31 0 15 | 23 4 14 | MAR | (27 9 59 | 27 5 18 |
| | APRIL | 29 7 33 | 29 15 52 | | APRIL | 25 22 48 | 25 15 28 |
| | MAY. | 28 20 17 | 29 5 34 | | MAY . | 25 11 27 | 25 2 55 |
| | June. | 27 9 1 | 27 17 11 | | JUNE. | 21 0 11 | 28 16 17 |
| | JULY. | 26 21 45 | 27 3 13 | | July. | 28 12 55 | 28 7 81 |
| | Aug | 25 10 29 | 25 12 27 |] | Aug | 22 1 89 | 22 0 8 |
| | SEPT | 23 23 13 | 23 21 44 | | 0 | 5 20 1 | 5 11 44 |
| | Oct | 23 11 57 | 23 7 39 | | SEPT | 20 14 28 | 20 16 59 |
| 1 | Nov | 22 0 41 | 21 18 31 | | Oct | 20 8 7 | 20 9 27 |
| _ | Dec | 21 13 25 | 21 6 28 | | Nov | 18 15 51 | 19 0 89 |
| 6. | JAN | 20 2 9 | 19 19 32 | | DEC | 18 4 85 | 18 14 11 |
| C. | FEB | 18 14 54 | 18 9 44 | | 1 | 1 | |
| 23 16 36 | MAR | 20 3 38 | 20 0 50 | з. | JAN | 16 17 20 | 17 1 55 |
| | 0 | (3220 | 4 5 50 | F. | FEB | 15 6 4 | 15 11 55 |
| | APRIL | 18 16 22 | 18 16 32 | 23 10 8 | MAR | 16 18 48 | 16 20 87 |
| | MAY . | 18 5 6 | 18 8 12 | | APRIL | 15 7 82 | 15 4 89 |
| , | June . | 16 17 50 | 16 23 7 | | MAY . | 14 20 16 | 14 12 54 |
| , | JULY . | 16 6 34 | 16 12 48 | | JUNE . | 18 9 0 | 12 22 26 |
| | Avg | 14 19 18 | 15 1 11 | | JULY. | 12 21 44 | 12 10 7 |
| | SEPT | ſ13 8 2 | 13 12 33 | | Aug | 11 10 28 | 11 0 24 |
| | 0 | 128 2 24 | 27 14 21 | | SEPT | 9 28 12 | 9 17 4 |
| | Oct. | 12 20 46 | 12 23 27 | | Ocr | 9 11 56 | 9 11 16 |
| | Nov | 11 9 30 | 11 10 12 | | Nov | 8 0 40 | 8 5 44 |
| | DEC | 10 22 14 | 10 21 1 | 4 | DEC | 7 18 24 | 7 28 5 |
| | | 1 | | 1 | | | - |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|---------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| B.C. | | d. h. m. | d. h. m. | A.D. 2. | | d. h. m. | d. h. m. |
| 2. | JAN | 6 2 9 | 6 14 19 | A. 7/51- | JAN. | 2 17 18 | 2 13 54 |
| E. Morob | 0 | 20 20 31 | 20 14 3 | d. h . m . | FEB | 1 6 2 | 1 8 32 |
| March. $d. h. m.$ | FEB | 4 14 53 | 5 2 59 | 23 9 18 | MAR. | 2 18 46 | 3 2 28 |
| 23 15 51 | MAR | 6 3 37 | 6 13 11 | | | (1 7 30 | 1 18 30 |
| 1 | APRIL | 4 16 21 | 4 21 27 | | APRIL | 30 20 14 | (1 7 58 |
| | MAY . | 4 5 5 | 4 4 39 | | 0 | (15 14 36 | 15 6 11 |
| | June . | 2 17 49 | 2 11 42 | | MAY . | 30 8 58 | 30 18 53 |
| | | 2 6 33 | 1 19 47 | | JUNE . | 28 21 42 | 29 8 51 |
| | JULY O | 17 0 55 | 17 7 54 | | July. | 28 10 26 | 28 11 51 |
| | 0 022 0 | (31 19 17 | 31 5 56 | | A.ug. | 26 23 10 | 26 19 54 |
| | Aug | 30 8 1 | 29 18 56 | | SEPT. | 25 11 54 | 25 4 52 |
| | SEPT | 28 20 45 | 28 11 6 | | Oct. | 25 0 38 | 24 15 20 |
| | Oct. | 28 9 29 | 28 5 19 | | 0 | (819 0 | 9 2 1 |
| | Nov | 26 22 13 | 27 0 48 | | Nov. | 23 13 22 | 23 3 37 |
| ' | DEC. | 26 10 57 | 26 19 39 | | DEC. | 23 2 6 | 22 17 45 |
| | DEC | 20 10 0. | 20 10 00 | | | | |
| 1. | 0 | $\int 10 5 19$ | 10 0 14 | 3. g. | JAN | 21 14 50 | 21 9 31 |
| D.C. | JAN | (24 23 41 | 25 12 26 | | FEB | 20 3 35 | 20 2 21 |
| | FEB | 23 12 25 | 24 2 19 | 23 15 7 | MAR. | 21 16 19 | 21 19 22 |
| 22 21 40 | Mar | 24 1 9 | 24 13 14 | | APRIL | 20 5 8 | 20 11 37 |
| | APRIL | 22 13 53 | 22 21 44 | | 0 | 4 23 25 | 4 20 19 |
| | MAY . | 22 2 37 | 22 4 46 | | MAY. | (19 17 47 | 20 2 19 |
| | June . | 20 15 21 | 20 11 24 | | June . | 18 6 31 | 18 15 3 |
| | 0 | $\int 5 943$ | 5 12 45 | | July. | 17 19 15 | 18 1 59 |
| | JULY. | 20 4 5 | 19 18 45 | | Aug | 16 7 59 | 16 11 46 |
| | Aug | 18 16 49 | 18 3 52 | | SEPT | 14 20 43 | 14 21 10 |
| | SEPT | 17 5 33 | 16 15 37 | | Oct | ∫14 9 27 | 14 6 55 |
| | Ocr | 16 18 17 | 16 6 26 | | 0 | 129 3 49 | 29 2 59 |
| | Nov | 15 7 1 | 14 23 59 | | Nov | 12 22 11 | 12 17 24 |
| | DEC | ∫14 19 45 | 14 19 14 | | DEC | 12 10 55 | 12 4 47 |
| A.D. | 0 | 29 14 7 | 29 15 17 | 4. | JAN | 10 23 40 | 10 17 9 |
| 1. | Jan | 13 8 30 | 13 14 35 | F.E. | FEB | 9 12 24 | 9 6 30 |
| в. | FEB. | 11 21 14 | 12 8 25 | 22 20 56 | MAR | 10 1 8 | 9 20 52 |
| 23 3 29 | MAR. | 13 9 58 | 13 23 32 | | APRIL | (8 13 52 | 8 12 4 |
| | APRIL | 11 22 42 | 12 11 37 | | 0 | 23 8 14 | 23 13 27 |
| | MAY . | 11 11 26 | 11 21 1 | | MAY . | 8 2 36 | 8 3 40 |
| | JUNE . | (10 0 10 | 10 4 39 | | JUNE . | 6 15 20 | 6 19 0 |
| 1.43 | O ONE . | 24 18 32 | 24 13 24 | - | JULY. | 6 4 4 | 6 9 30 |
| | JULY. | 9 12 54 | 9 11 36 | | Aug | 4 16 48 | 4 22 45 |
| | AUG | 8 1 38 | 7 18 56 | | SEPT | 3 5 32 | 3 10 53 |
| | SEPT | 6 14 22 | 6 3 40 | | Ocr | (2 18 16 | 2 22 14 |
| | Oct. | 6 3 6 | 5 14 33 | | 0 | 17 12 38 | 17 2 43 |
| | Nov. | 4 15 50 | 4 4 1 | | 37 | (170 | 1 9 13 |
| | DEC. | 4 4 34 | 3 20 1 | | Nov | 30 19 44 | 30 20 5 |
| | | 01 | | | DEC | 30 8 28 | 30 6 55 |

| Mean | | Mean New | True New | 35 | | Mean New | True New |
|--------------------|--------|------------------------|----------|----------------------------|--------|---------------|---|
| Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. | Mean Vernal Equinox. | Month. | Moon. | Moon. (O Full Eol.) |
| A.D. 5 | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| March. | JAN | 28 21 13 | 28 17 47 | 8. | JAN | 26 12 22 | 27 1 9 |
| d. h. m. | FEB | 27 9 57 | 27 4 53 | A.G. | 0 | (10 6 44 | 10 1 3 6 |
| 23 2 44 | MAR | 28 22 41 | 28 16 39 | d. h . m . | FEB | 25 1 6 | 25 12 27 |
| | APRIL | 27 11 25 | 27 5 33 | 22 20 11 | MAR | 25, 13 50 | 25 21 27 |
| | MAY . | 27 0 9 | 26 19 42 | | APRIL | 24 2 34 | 24 4 56 |
| | June . | 25 12 53 | 25 10 55 | | MAY . | 23 15 18 | 28 11 50 |
| | July. | 25 1 37 | 25 2 37 | | JUNE . | 22 4 2 | 21 19 13 |
| | Αυς | 23 14 21 | 23 18 4 | | JULY . | 21 16 46 | 21 4 12 |
| | SEPT | 22 3 5 | 22 8 47 | | 0 | (511 8 | 5 17 18 |
| | Ост | 21 15 49 | 21 22 29 | | Aug | 20 5 30 | 19 15 44 |
| | Nov | 20 4 33 | 20 11 8 | | SEPT | 18 18 14 | 18 6 20 |
| | DEC | 19 17 17 | 19 22 44 | | Oct | 18 6 58 | 17 23 45 |
| | | | | | Nov | 16 19 42 | 16 18 58 |
| 6. | JAN | 18 6 1 | 18 9 19 | | DEC | 16 8 26 | 16 14 23 |
| c. | FEB | 16 18 45 | 16 19 4 | | | | • |
| | 0 | (3 13 7 | 3 23 38 | 9. | JAN | 14 21 11 | 15 8 23 |
| 23 8 33 | MAR | 18 7 29 | 18 4 21 | F. | FEB | 18 9 55 | 18 28 45 |
| | APRIL | 16 20 13 | 16 13 52 | 23 2 0 | MAR | 14 22 39 | 15 12 1 |
| | MAY . | 16 8 57 | 16 0 25 | | APRIL | 13 11 23 | 18 21 82 |
| | JUNE. | 14 21 41 | 14 12 42 | | MAY . | 13 0 7 | 18 5 7 |
| - | JULY. | 14 10 25 | 14 3 2 | | June. | 11 12 51 | 11 11 47 |
| | Aug | §12 23 9 | 12 19 6 | | JULY. | 11 1 35 | 10 18 41 |
| | 0 | 27 17 31 | 27 11 26 | | Aug | 9 14 19 | 9 2 52 |
| , | SEPT | 11 11 53 | 11 12 10 | | SEPT | 8 3 3 | 7 18 19 |
| | Ост | 11 0 37 | 11 5 16 | | Ocr | 7 15 47 | 7 2 40 |
| | Nov. | 9 13 21 | 9 21 25 | | Nov | 6 4 31 | 5 18 57 |
| | DEC | 9 2 5 | 9 11 58 | | DEC | 5 17 15 | 5 18 80 |
| | | | | | 0 | (20 11 37 | 20 14 24 |
| 7. | JAN | 7 14 50 | 8 0 38 | 10. | JAN | 4 5 59 | 4 8 56 |
| В, | FEB | 5 6 3 34 | 6 11 22 | E. | FEB. | 2 18 43 | 3 3 36 |
| 20.11.00 | 0 | 20 21 56 | 20 23 42 | 23 7 49 | MAR. | 4 7 27 | 4 20 4 |
| 23 14 22 | MAR. | 7 16 18 | 7 20 29 | 20 1 20 | APRIL | 2 20 11 | 8 9 86 |
| | APRIL | 6 5 2 | 6 4 33 | | | (2 8 55 | 2 20 14 |
| | MAY. | 5 17 46 | 5 12 24 | | May . | 31 21 39 | |
| | JUNE. | 4 6 30 | 3 21 1 | | 0 | (15 16 1 | $\begin{cases} 1 & 4 & 89 \\ 15 & 9 & 14 \end{cases}$ |
| | JULY. | 3 19 14 | 3 7 26 | | JUNE . | 80 10 23 | 80 11 52 |
| 1. | A == 0 | 2 7 58 | 1 20 24 | | JULY . | 29 23 7 | 29 19 0 |
| | Aug. O | 31 20 42 | 17 4 0 | | Aug | 28 11 51 | 28 8 6 |
| | SEPT. | 31 20 42 30 9 26 | 31 12 3 | | SEPT | 27 0 35 | 26 12 57 |
| | Ост. | 29 22 10 | 30 5 48 | | Ост | 26 13 19 | 26 1 10 |
| | Nov. | 28 10 54 | 30 0 29 | | Nov | 25 2 3 | 24 15 54 |
| 1 | DEC. | 27 23 38 | 28 18 48 | | 0 | 6 9 20 25 | 10 5 5 |
| | | 40 00 | 28 11 12 | | DEC | 24 14 47 | 24 8 50 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|-----------------------------------|------------------------------------|
| A.D. 11. | | d. h. m. | d. h. m. | A.D. 14. | | d. h. m. | d. h. m. |
| D. | JAN | 23 3 32 | 23 3 6 | G. | JAN. | 19 18 42 | |
| d. $h.$ $m.$ | FEB | 21 16 16 | 21 21 20 | March. | FEB. | 18 7 26 | 19 16 40 |
| 23 13 37 | MAR | 23 5 0 | 23 14 18 | d. h. m. 23 7 3 | MAR. | 19 20 10 | 18 3 21 |
| | APRIL | 21 17 44 | 22 5 3 | -3 . 0 | 0 | (3 14 32 | 19 14 27 |
| | MAY . | 21 6 28 | 21 17 13 | | APRIL | H., 155 | |
| | 0 | (5 0 50 | 4 14 52 | | MAY. | 1 | 18 2 26 |
| | JUNE . | 19 19 12 | 20 3 9 | | JUNE . | 17 21 38 16 10 22 | 17 15 46 |
| | JULY. | 19. 7 56 | 19 11 40 | | JULY. | 15 23 6 | 16 6 25 |
| - | Aug | 17 20 40 | 17 19 47 | | Aug. | 14 11 50 | 15 22 3 |
| | SEPT | 16 9 24 | 16 4 24 | 4.1 | SEPT. | (13 0 34 | 14 13 53 13 5 19 |
| | Ocr | 15 22 8 | 15 14 12 | | 0 | 27 18 56 | |
| | Nov | (14 10 52 | 14 1 36 | | Oct | 12 13 18 | 27 5 52 12 19 52 |
| | 0 | 29 5 14 | 29 14 26 | | Nov. | 11 2 2 | |
| | DEC. , | 13 23 36 | 13 14 46 | | DEC. | 10 14 46 | 11 9 16 10 21 30 |
| | | | | | | 10 11 10 | 10 21 30 |
| 12. | JAN. | 12 12 21 | 12 5 36 | 15. | JAN | 0 004 | 0 0 00 |
| С.В. | FEB. | 11 1 5 | 10 21 41 | F. | FEB. | 9 3 31 | 9 8 33 |
| 22 19 26 | MAR. | 11 13 49 | 11 14 27 | 23 12 52 | MAR. | 7 16 15 | 7 18 33 |
| | APRIL | 10 2 33 | 10 7 1 | 20 12 02 | O | 14 | 9 3 46 |
| | MAY . | 9 15 17 | 9 22 31 | | APRIL | 7 17 43 | 24 11 1 |
| | JUNE . | 8 4 1 | 8 12 17 | | MAY. | 7 17 43 | 7 12 50 |
| | JULY. | 7 16 45 | 8 0 16 | | JUNE. | 5 19 11 | 6 22 32 5 9 43 |
| | Aug | 6 5 29 | 6 10 46 | | JULY. | 5 7 55 | 4 22 58 |
| | SEPT | 4 18 13 | 4 20 31 | | Aug. | 3 20 39 | 3 14 17 |
| | Oct | 4 6 57 | 4 6 15 | | SEPT. | (2 9 23 | 2 7 9 |
| | Nov | 2 19 41 | 2 16 29 | | 0 | 17 3 45 | 16 20 0 |
| | ~ | (2 8 25 | 2 3 26 | | | (1 22 7 | 2 0 36 |
| | DEC | 81 21 10 | 81 15 13 | | Oct | \\\ 31 10 51 | 31 17 34 |
| | | | | | Nov | 29 23 35 | 30 9 11 |
| 13. | JAN. | 80 9 54 | 80 8 49 | | DEC | 29 12 19 | 29 22 58 |
| Α. | FEB. | 28 22 38 | 28 17 23 | | | | |
| 28 1 15 | MAR. | 30 11 22 | 80 7 54 | 16. | JAN | 28 1 4 | 28 10 31 |
| | 0 | (14 5 44 | 14 13 33 | E.D. | FEB. | 26 13 48 | 26 20 14 |
| | APRIL | 29 0 6 | 28 28 9 | 22 18 41 | MAR. | 27 2 32 | |
| | MAY . | 28 12 50 | 28 14 38 | | APRIL | 25 15 16 | 27 4 34 25 12 12 |
| | JUNE . | 27 1 34 | 27 5 42 | | May . | 25 4 0 | 24 20 9 |
| | JULY. | 26 14 18 | 26 19 48 | | June . | 23 16 44 | 23 5 29 |
| | Avg | 25 8 2 | 25 8 44 | | JULY . | 28 5 28 | 22 17 5 |
| | SEPT | 28 15 46 | 28 20 48 | | Aug. | 21 18 12 | 21 7 29 |
| 1 | 0 | 8 10 8 | 7 22 10 | | SEPT. | 20 6 56 | 20 0 25 |
| | - 1- | 23 4 30 | 23 8 5 | | Ост. | 19 19 40 | 19 18 59 |
| | Nov | 21 17 14 | 21 19 8 | | Nov. | 18 8 24 | 18 13 47 |
| | DEC. | 21 5 58 | 21 5 59 | | DEC | 17 21 8 | 18 7 24 |
| ļ | | ' | [] | | | | |

| Mean | | Mean New | True New | Mean | | Mean New | True New |
|--------------------|--------|--|----------|--------------------------|--------|------------------------|----------|
| Vernal Equinox. | Month. | (O Full Ecl.) | Moon. | Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. |
| A.D. | | d. h. m. | d. h. m. | A.D. 20. | | d. h. m. | d. h. m. |
| 17. | Jan | ſ16 9 52 | 16 22 41 | G.F. | JAN | 14 1 2 | 13 21 51 |
| March. | 0 | 31 4 14 | 30 22 9 | March. d . h . m . | FEB | 12 13 46 | 12 16 1 |
| d. $h.$ $m.$ | FEB | 14 22 36 | 15 11 13 | 22 17 56 | MAR | 13 2 30 | 13 9 36 |
| 23 0 30 | MAR | 16 11 20 | 16 21 10 | | APRIL | 11 15 14 | 12 1 27 |
| | APRIL | 15 0 4 | 15 5 11 | | MAY. | 11 3 58 | 11 14 53 |
| | MAY . | 14 12 48 | 14 12 9 | | June. | 9 16 42 | 10 1 56 |
| | JUNE . | 13 1 32 | 12 19 3 | | JULY. | 9 5 26 | 9 11 13 |
| | July. | (12 14 16 | 12 3 6 | | Aug. | 7 18 10 | 7 19 36 |
| | 0 | 27 8 38 | 27 15 3 | | SEPT. | 6 6 54 | 6 4 4 |
| | AυG | 11 3 0 | 10 13 19 | | Oct. | 5 19 38 | 5 13 25 |
| | SEPT. | 9 15 44 | 9 2 26 | | Nov. | (4 8 22 | 4 0 5 |
| | Oct | 9 4 28 | 8 18 36 | | | 19 2 44 | 19 10 15 |
| | Nov. | 7 17 12 | 7 13 11 | | Dra | 3 21 6 | 3 12 19 |
| | DEC. | 7 5 56 | 7 8 46 | | DEC | 5 21 0 | 0 12 19 |
| | 10110. | . 0 50 | . 0 ±0 | 01 | T | ſ 2 9 51 | 2 2 11 |
| 18, | JAN | ∫ 5 18 41 | 6 3 40 | 21. E. | JAN | \81 22 35 | 31 17 27 |
| в. | O | ₹20 13 8 | 20 8 50 | | FEB | | |
| | FEB | 4. 7 25 | 4 20 24 | 22 23 45 | MAR | 2 11 19 | 2 9 42 |
| 23 6 19 | MAR | 5 20 9 | 6 10 9 | | 40. | (108 | 1 2 15 |
| | APRIL | 4 8 53 | 4 20 53 | | APRIL | 30 12 47 | 30 18 14 |
| | MAY . | 8 21 37 | 4 5 15 | | 0 | (15 7 9 | 15 3.46 |
| | JUNE . | 2 10 21 | 2 12 13 | | MAY . | 180 1 31 | 30 8 57 |
| | | (1 23 5 | 1 18 54 | | June . | 28 14 15 | 28 21 57 |
| | JULY C | 16 17 27 | 16 19 27 | | July. | 28 2 59 | 28 9 19 |
| | 1 | 31 11 49 | 31 2 22 | | Aug. | 26 15 43 | 26 19 87 |
| | Aug | 80 0 33 | 29 11 42 | <u> </u> | SEPT. | 25 4 27 | 25 5 82 |
| | SEPT | 28 13 17 | 27 23 38 | | Oct. | 24 17 11 | 24 15 41 |
| i | Oct | 28 2 1 | 27 14 32 | | 0 | (8 11 33 | 8 10 52 |
| | Nov | 26 14 45 | 26 8 4 | ii | Nov | 23 5 55 | 23 2 20 |
| | DEC | 26 3 29 | 26 3 11 | | DEC | 22 18 39 | 22 13 38 |
| 10 | | | | | | | |
| 19. | O T | 9 21 51 | 10 0 8 | 22. | JAN | 21 7 23 | 21 1 37 |
| | JAN | 24 16 13 | | D. | FEB | 19 20 7 | 19 14 24 |
| 00 10 0 | FEB. | 23 4 57 | 23 15 55 | 23 5 34 | MAR | 21 8 51 | 21 4 9 |
| 23 12 8 | MAR. | 1 | 25 6 52 | | APRIL | 19 21 35 | 19 18 50 |
| | APRIL | 23 6 25 | 23 18 53 | | 0 | (4 15 57 | 4 20 59 |
| | MAY . | | 23 4 18 | | MAY . | (19 10 19 | 19 10 8 |
| | JUNE . | | | | JUNE . | 17 23 3 | 18 1 30 |
| | 1 0 | $\begin{cases} 6 & 2 & 15 \\ 22 & 22 & 23 \end{cases}$ | | | JULY . | 17 11 47 | 17 16 16 |
| | JULY . | | | | Aug | 16 0 31 | 16 6 8 |
| 1 | Avg. | | | | SEPT | 14 13 15 | 14 18 47 |
| | SEPT. | | | | Oct | ∫14 1 59 | 14 6 42 |
| | Oct. | . 17 10 49 | | | 0 | 28 20 21 | 28 10 38 |
| 1 | Nov. | | 1 | | Nov. | 12 14 43 | 12 18 4 |
| | DEC. | . 15 12 17 | 15 4 17 | | Dec | 12 3 27 | 12 5 8 |
| | 1 | <u> </u> | 1 | l F | 1 | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl. |
|----------------------------|----------|------------------------------------|--|----------------------------|--------|------------------------------------|-----------------------------------|
| A.D. 23. | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| March. | JAN | 10 16 12 | 10 15 44 | 26. | JAN | 7 7 22 | 7 19 31 |
| d. h. m. | FEB | 9 4 56 | 9 2 12 | F | FEB. | (520 6 | 6 9 25 |
| 23 11 28 | MAR | 10 17 40 | 10 12 45 | d. h. m. | 0 | 20 14 28 | 20 9 20 |
| | APRIL | 9 6 24 | 8 23 56 | 23 4 49 | MAR | 7 8 50 | 7 20 31 |
| | MAY . | 8 19 8 | 8 12 19 | | APRIL | 5 21 34 | 6 5 16 |
| | JUNE . | 7 7 52 | 7 2 13 | | MAY . | 5 10 18 | 5 12 20 |
| | July. | 6 20 36 | 6 17 26 | | JUNE . | 3 23 2 | 3 19 14 |
| | Aug | 5 9 20 | 5 9 23 | | JULY. | 3 11 46 | 3 2 34 |
| | SEPT | 3 22 4 | 4 1 22 | | | (2 0 30 | 1 11 37 |
| | Ocr | 3 10 48 | 3 16 43 | | Aug. O | 16 18 52 | 17 0 42 |
| | Nov | 1 23 32 | 2 6 58 | | | (31 13 14 | 30 23 16 |
| | ~ | (1 12 16 | 1 19 56 | | SEPT | 30 1 58 | 29 14 1 |
| | DEC | {31 1 0 | 31 7 35 | | Oct | 29 14 42 | 29 7 36 |
| | | | | | Nov. | 28 3 26• | 28 2 56 |
| 24. | JAN | 29 13 45 | 29 18 0 | | DEC | 27 16 10 | 27 22 24 |
| B.A. | FEB | 28 2 29 | $\begin{bmatrix} 29 & 18 & 0 \\ 28 & 3 & 22 \end{bmatrix}$ | | | | |
| | | | - 1 | 27. | JAN | 26 4 55 | 26 16 20 |
| 00 17 10 | O Mar | \(\) 13 20 51 \(\) 28 15 13 | 14 6 52 | E. | FEB | 24 17 39 | 25 7 83 |
| 22 17 12 | APRIL | 28 15 18 | 28 12 10 | 23 10 38 | MAR. | 26 6 23 | 26 19 41 |
| | | 26 16 41 | 26 21 12 | | APRIL | 24 19 7 | 25 5 3 |
| | MAY. | | 26 7 22 | | MAY. | 24 7 51 | 24 12 33 |
| | June . | | 24 19 26 | | JUNE. | 22 20 35 | 22 19 15 |
| | JULY. | 24 18 9 23 6 53 | 24 9 45 | | JULY. | 22 9 19 | 22 2 17 |
| 1 | Aug | | 23 2 5 | | Aug. | 20 22 3 | 20 10 41 |
| | ~ O | 7 1 15 | 6 19 37 | | SEPT. | 19 10 47 | 18 21 19 |
| | SEPT | 21 19 87 | 21 19 35 | | Ост. | 18 23 31 | 18 10 47 |
| | Ocr. | 21 8 21 | 21 13 11 | | Nov. | 17 12 15 | 17 3 6 |
| | Nov | 19 21 5 | 20 5 48 | | DEC. | (17 0 59 | 16 21 32 |
| | DEC | 19 9 49 | 19 20 37 | | 0 | {31 19 21 | 31 23 19 |
| 25. | Jan | 17 22 83 | 18 9 15 | 28. | Jan | 15 13 43 | 15 16 44 |
| G. | FEB | 16 11 17 | 16 19 46 | D.C. | FEB | 14 2 27 | 14 11 8 |
| | 0 | 3 5 39 | 8 6 58 | 22 16 27 | MAR | 14 15 11 | 15 3 25 |
| 22 23 1 | MAR | ₹18 0 1 | 18 4 82 | | APRIL | 13 3 55 | 13 16 51 |
| | APRIL | 16 12 45 | 16 12 14 | | MAY . | 12 16 39 | 13 3 27 |
| 1 | MAY . | 16 1 29 | 15 19 44 | | JUNE . | (11 5 23 | 11 11 57 |
| | JUNE . | 14 14 13 | 14 4 8 | | 0 | 25 23 45 | 25 15 49 |
| | · July . | 14 2 57 | 18 14 28 | | JULY . | 10 18 7 | 10 19 24 |
| | Aug | 512 15 41 | 12 3 23 | | A.ug | 9 6 51 | 9 2 50 |
| | 0 | 27 10 3 | 27 11 57 | | SEPT | 7 19 35 | 7 11 14 |
| | SEPT | 11 4 25 | 10 19 18 | | Oct. | 7 8 19 | 6 21 21 |
| | Ocr | 10 17 9 | 10 13 21 | | Nov. | 5 21 3 | 5 9 41 |
| | Nov | 9 5 53 | 9 8 24 | | DEC | (5.947 | 5 0 20 |
| | DEC. | | | | | | |

| Mean | | Mean New | True New | Mean | | Mean New | True New |
|--------------------|------------|------------------------|---|--------------------|--------|--|--------------------|
| Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. (O Full Ecl.) | Vernal Equinox. | Month. | (O Full Ecl.) | (O Full Ecl.) |
| A.D. | | | -, , | | | d. h. m. | d. h. m. |
| 29. | _ | d. h. m. | d. h. m. | A.D. | | | |
| March. | JAN | 3 22 32 | 3 16 58 | 32. F.E. | JAN | $\begin{cases} 1 & 18 & 41 \\ 81 & 2 & 25 \end{cases}$ | 1 14 58 81 1 16 |
| d. h. m. | FEB | 2 11 16 | 2 10 44 | March. | FEB | 29 15 10 | 29 11 28 |
| 22 22 16 | MAR | 4 0 0 | 4 4 34 2 21 15 | d. h. m. | MAR. | 80 8 54 | 29 21 58 |
| | APRIL | 2 12 44 | 2 11 53 | 22 15 42 | | (18 22 16 | 14 11 4 |
| | MAY. | 81 14 12 | | | APRIL | 28 16 88 | 28 9 27 |
| | | (15 8 34 | $\begin{cases} 1 & 0 & 9 \\ 14 & 21 & 52 \end{cases}$ | | MAY. | 28 5 22 | 27 22 24 |
| | O June. | 30 2 56 | 30 10 21 | | June . | 26 18 6 | 26 12 56 |
| | July. | 29 15 40 | 29 19 15 | | July. | 26 6 50 | 26 4 48 |
| | Aug. | 28 4 24 | 28 3 48 | | Aug. | 21 19 84 | 24 21 0 |
| | SEPT. | 26 17 8 | 26 12 50 | | SEPT. | 23 8 18 | 28 18 1 |
| | Oct. | 26 5 52 | 25 22 56 | | 0 | (8 2 40 | 7 14 10 |
| | Nov. | 24 18 36 | 24 10 24 | | Oct | 22 21 2 | 28 4 8 |
| | * 0 | (9 12 58 | 9 22 49 | | Nov | 21 9 46 | 21 17 58 |
| | DEC | 24 7 20 | 23 23 21 | | DEC | 20 22 80 | 21 6 21 |
| | | , | | ! | | | |
| 30. | JAN | 22 20 5 | 22 13 44 | .33. | JAN | 19 11 14 | 19 17 19 |
| A. | FEB | 21 8 49 | 21 5 16 | D. | FEB | 17 28 58 | 18 2 58 |
| 23 4 5 | MAR | 22 21 33 | 22 21 30 | 22 .21 31 | MAR | 19 12 42 | 19 11 45 |
| | APRIL | 21 10 17 | 21 13 41 | | 0 | (874 | 8 18 4 |
| | MAY. | 20 23 1 | 21 5 5 | | APRIL | 18 1 26 | 17 20 20 |
| } | 0 | 5 4 17 23 | 4 11 4 | | MAY . | 17 14 10 | 17 5 87 |
| | JUNE. | 19, 11 45 | 19 19 2 | | June. | 16 2 54 | 15 16 82 |
| 1 | JULY. | 19 0 29 | 19 7 23 | | July. | 15 15 88 | 15 5 41 |
| | Aug. | 17 13 13 | 17 18 23 | ; | Aug | 14 4 22 | 18 21 '9 |
| | SEPT | 16 1 57 | 16 4 42 | | SEPT | 512 17 6 | 12 14 22 |
| | Ocr. , | 15,14 41 | 15 14 54 | | 0 | 27 11 28 | 27 4 25 |
| 1 | Nov. | 14 3 25 | 14 1 23 | | Ocr | 12 5 50 | 12 8 18 |
| | DEC | 13 16 9 | 13 12 23 |] | Nov. | 10 18 84 | 11 1 46 |
| 31. | JAN. | 12, 4 53 | 11 23 51 | | DEC | 10 7 18 | 10 17 48 |
| G. | FEB. | 10.17 37 | 10 11 58 | 34. | Jan. | 9 00 6 | 0 77 00 |
| 23 9 54 | MAR. | 12 6 21 | 12 0 55 | 0. | FEB. | 8 20 8 7 8 47 | 9 7 80 7 18 59 |
| | APRIL | (10 19 5 | 10 14 51 | 28 #3 20 | MAR. | 8 21 81 | 7 18 59 9 4 24 |
| | 0 | 25 13 27 | 25 21 7 | 20 0 20 | APRIL | 7 10 15 | 7 12 22 |
| | MAY . | 10 7 49 | 10 5 43 | | MAY. | 6 22 59 | 6 19 41 |
| | JUNE . | 8 20 33 | 8 21 4 | | JUNE. | 5 11 48 | 5 8 28 |
| | JULY, | 8. 9 17 | 8 12 18 | | JULY. | 5 0 27 | 4 12 85 |
| | Aug. | 6.22 1 | 7 2 50 | | Aug. | 8 18 11 | 8 0 19 |
| | SEPT., | 5. 10 45 | 5 16 23 | | SEPT. | 2 1 55 | 1 14 42 |
| 1 | Oct. | 5 4 23 29 | 5 4 58 | | | (1 14 89 | 1 7 58 |
| | 0 | (19 17 51 | 19 6 8 | | Oct | 81 8 28 | 81 2 47 |
| 10 | Nov. | 3, 12 13 | 3 16 48 | | Nov. | 29 16 7 | 29 21 52 |
| | DEC. | 8 0.57 | 3 4 5 | | DEC. | 29- 4 51 | 29 15 88 |
| 1 | .0 | 1 | ľ | | 1 | | |

| | | 1 | | L | | 1 | |
|----------------------------|--------|------------------------------|-----------------------------------|----------------------------|-------------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. | | d. h. m. | d. h. m. | A.D. 38. | ~ | d. h. m. | d. h. m. |
| 35. | JAN | 27 17 36 | 28 6 56 | E. | JAN | 24 8 46 | 24 5 40 |
| March. | 0 | (11 11 58 | 11 6 8 | March. d , h , m . | FEB | 22 21 30 | 22 23 24 |
| d. h. m. | FEB | 26 6 20 | 26 19 19 | 23 2 35 | MAR | 24 10 14 | 24 16 36 |
| 23 9 9 | MAR | 27 19 4 | 28 5 3 | | APRIL | 22 22 58 | 23 8 16 |
| | APRIL | 26 7 48 | 26 12 48 | | MAY . | 22 11 42 | 22 21 44 |
| | MAY . | 25 20 32 | 25 19 36 | | JUNE . | 21 0 26 | 21 9 0 |
| | June . | 24 9 16 | 24 2 28 | | July . | 20 13 10 | 20 18 38 |
| | JULY. | 23 22 0 | 23 10 33 | | Aug | 19 1 54 | 19 3 28 |
| | 0 | 7 16 22 | 7 22 17 | | SEPT | 17 14 38 | 17 12 23 |
| | Aug | 22 10 44 | 21 20 52 | | Ост | 17 3 22 | 16 22 4 |
| | SEPT | 20 23 28 | 20 10 8 | | Nov | (15 16 6 | 15 8 55 |
| | Ocr | 20 12 12 | 20 2 28 | | 0 | (30 10 28 | 30 18 29 |
| | Nov | 19 0 56 | 18 21 8 | | DEC | 15 4 50 | 14 21 4 |
| | DEC | 18 13 40 | 18 16 45 | | | | |
| 36. | JAN | (17 2 24 | 17 11 85 | 39. | JAN | 13 17 34 | 13 10 33 |
| A.G. | 0 | 81 20 46 | 31 17 20 | D. | FEB | 12 6 18 | 12 1 15 |
| | FEB | 15 15 8 | 16 4 11 | 23 8 24 | MAR | 13 19 2 | 13 16 54 |
| 22 14 58 | MAR | 16 3 52 | 16 17 47 | | APRIL | 12 7 46 | 12 9 0 |
| | APRIL | 14 16 36 | 15 4 22 | | MAY . | §11 20 30 | 12 0 47 |
| | MAY. | 14 5 20 | 14 12 39 | 1 | _ 0 | 26 14 52 | 26 11 10 |
| | JUNE. | 12 18 4 | 12 19 38 | | JUNE . | 10 9 14 | 10 15 32 |
| | JULY. | (12 6 48 | 12 2 26 | | JULY. | 9 21 58 | 10 4 50 |
| | 0 | 27 1 10 | 27 2 10 | | Aug | 8 10 42 | 8 16 43 |
| | Aug | 10 19 32 | 10 10 8 | | SEPT | 6 23 26 | 7 3 34 |
| | SEPT | 9 8 16 | 8 19 39 | | Oct. | 6 12 10 | 6 14 0 |
| | Ocr | 8 21 0 | 8 7 46 | | Nov. | 5 0 54 | 5 0 80 |
| | Nov | 7 9 44 | 6 22 43 | | 0 | 19 19 16 | 19 18 47 |
| | DEC | 6 22 28 | 6 16 10 | | DEC | 4 13 38 | 4 11 18 |
| 37. | JAN | (5 11 13 | 5 11 4 | 40. | JAN | 3 2 22 | 2 22 25 |
| F. | 0 | 20 5 35 | 20 8 55 | C.B. | FEB | 1 15 7 | 1 10 1 |
| | FEB | 3 23 57 | 4 5 55 | 00 44 45 | | (2 3 51 | 1 22 12 |
| 22 20 47 | MAR. | 5 12 41 | 5 23 16 | 22 14 13 | MAR | 81 16 85 | 31 11 21 |
| | APRIL | 4 1 25 | 4 14 5 | | APRIL | 30 5 19 | 30 1 32 |
| | MAY . | 3 14 9 | 4 2 2 | | 0 | (14 23 41 | 15 4 28 |
| | JUNE . | 2 2 53 | 2 11 32 | | MAY . | 29 18 3 | 29 16 35 |
| | | (1 15 37 | 1 19 27 | | June . | 28 6 47 | 28 8 0 |
| | JULYC | 16 9 59 | 16 2 35 | | July. | 27 19 31 | 27 23 8 |
| | | 31 4 21 | 31 2 55 | | Aug | 26 8 15 | 26 13 28 |
| | Aug | 29 19 5 | 29 10 54 | | SEPT | 24 20 59 | 25 2 49 |
| | SEPT | 28 5 49 | 27 20 15 | | Ост | 24 9 43 | 24 15 15 |
| | Ocr | 27 18 33 | 27 7 81 | | 0 | (845 | 7 18 43 |
| | Nov | 26 7 17 | 25 21 0 | | Nov | 22 22 27 | 23 2 58 |
| | DEC | 25 20 1 | 25 12 33 | | DEC | 22 11 11 | 22 14 1 |
| | | 1 | | Maria In | | 1 | |

| r | | 1 (1)0000-1 | | | | | Age to a grant of |
|----------------------------|--------|------------------------------------|---------------|----------------------------|---------|--|--|
| Mean Vernal Equinos. | Month | Moan Now Moon (*) Full Rol.) | Maon. | Mean Vortal Rymines. | M-115 | Month New 1 Month New 1 West Mer? 3: | Mirah |
| A.D. 41. | | d. h. m. | d. A. m. | AD. | į | d h m | d, h, m |
| ۸. | JAR | 20 23 56 | 21 0 30 | 44. | JAN | 1 % 1 % P | 19 8 42 |
| March. | FEB | 19 12 40 | 19 10 81 | \$0 fs | Fin . | 1: 3 4: | 17 17 AL |
| d. h. m. 22 20 2 | MAR. | 21 1 21 | कुछ क्षा क्षा | March | | , 2 22 11 | 2 16 57 |
| | Arun. | 19 14 N | 19 7 9 | 21 14 24 | Man . | 11:16:00 | 19 1 24 |
| | MAY . | 19 2 52 | In 19 6 | ŧ | Armis | 10 5 17 | 16-12-55 |
| | JUNE. | 17 15 mi | 17 H 45 | | Mar . | 15 16 1 | 15 20 0 |
| | Jun . | 17 4 20 | 17 0 1 | | Jins . | 14 6 45 | 14 2 30 |
| | Aro | 15 17 4 | 15 16 18 | | Just . | 18 10 20 | 13 10 1 |
| | Sert | 11 5 44 | 14 H IH | | Ava . | 112 9 18 | 11 19 % |
| | Oct | 13 18 82 | 14 0 45 | | 1 | 137 2 A | 27 8 16 |
| | Nuv | 12 7 16 | 12 15 20 | | Mert. | 144 Ma 247 | Its is too |
| | DEC | 11 30 0 | 12 4 41 | | the s. | 10 0 41 | 9 21 54 |
| | | | | | Nos. | 9 77 77 | n 15 32 |
| 42. | JAM | 10 8 41 | 10 16 21 | 1 | llax. | . 11 0 | # 10 51 |
| a. | Fan | 8 21 29 | 0 2 82 | 1 | , | | |
| 29 1 51 | MAR. | (10 10 12 | 10 11 10 | 45. | · Jan . | 6) (20) feb | 7 6 17 |
| | 0 | 25 4 84 | 25 18 54 | | Fen . | 5 13 199 | 6 0 6 |
| | APRIL | H 22 M | 8 19 M | 22 10 17 | Man. | 7 1 22 | 7 15 11 |
| | MAY . | 8 11 40 | H 4 27 | | Armit | 5 11 6 | 0 8 0 |
| | June . | 7 0 21 | 6 14 17 | | Mar . | D 12 (40) | 5 12 27 |
| | JULY . | 6 18 8 | 6 2 13 | | Je we . | 0 15 01 | 8 19 67 |
| | Aug | 8 1 102 | 4 10 30 | | Jes.v. | 8 4 14 | 8 2 45 |
| | SEPT | S 8 14 86 | 8 9 10 | | Ava | ini 5 40 | 1 9 64 |
| | 0 | IH H PH | IN N SA | | Marr. | 21 14 181 | 29 5 29 |
| | Oct | 8 8 20 | 8 8 7 | | Org | 20 7 14 | 29 10 2 |
| | Nov. | 1 10 4 | 1 21 13 | | Nov. | 47 110 Den | 27 11 1n |
| | DEC | 1 4 4H | 1 11 11 | | Dec. | 27 % 42 | 27 5 80 |
| | | (80 17 82 | 81 8 10 | | 1700. | | |
| 43. | JAN. | 20 6 16 | 29 17 45 | | 0 | 111 8 4 | 11 # 9 |
| ν. | Fau. | 27 19 0 | 24 4 2 | 40. | JAN. | (4) 31 30 | 20 0 24 |
| | 0 | (14 18 22 | 14 14 6 | | Frm. | 24 10 10 | 24 IN III |
| 28 7 40 | MAR. | 29 7 45 | 20 12 24 | 28 1 6 | Man. | 25 23 54 | 20 10 25 |
| | APRIL | 27 20 20 | 27 19 49 | | Armit | 24 11 25% | 24 28 84 |
| | MAY . | 27 9 18 | 27 8 8 | | MAY. | 31 0 23 | 21 10 86 |
| | Junn . | 25 21 57 | 25 11 20 | | June . | 21 13 6 | 6 22 24 |
| | JULY . | 25 10 41 | 21 21 19 | | Jes.v. | 22 1 80 | |
| | Aug | 28 28 23 | 28 10 44 | | Ato. | 20 14 84 | 30 10 46 |
| | 0 | 5 7 17 47 | 7 90 1 | | Barr. | 19 B 18 | 18 19 SI |
| | SEPT | (33 13 0 | 22 2 45 | | Oct. | 18 16 2 | 18 5 54 |
| | Oor. | | 21 21 3 | 14 | Nov. | 17 4 46 | |
| | Nov. | 20 18 87 | 1 | | Dec. | (10 17 8) | 16 8 44 |
| | DEC | 20 2 21 | 20 11 4 | | 0 | 81 11 10 | |
| | 1 | L | 1 | | 1 " | **** ** *** | **** ********************************* |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 47. | | d. h. m. | d. h. m. | A.D. 50. | | d. h. m. | d. h. m. |
| A. | JAN | 15 6 15 | 15 0 58 | D. | JAN | 11 21 25 | 11 23 43 |
| March. $d. h. m.$ | FEB | 13 18 59 | 13 18 16 | March. | FEB. | 10 10 9 | 10 9 45 |
| 23 6 55 | MAR. | 15 7 43 | 15 11 39 | d. h. m. 23 0 21 | MAR. | 11 22 53 | 11 19 26 |
| | APRIL | 13 20 27 | 14 4 3 | 20 0 21 | APRIL | (10 11 37 | 10 5 24 |
| | MAY. | 13 9 11 | 13 18 37 | | 0 | 25 5 59 | 25 18 20 |
| | JUNE . | (11 21 55 | 12 7 3 | | MAY. | 10 0 21 | 9 16 23 |
| | O O | 26 16 17 | 26 4 54 | | June. | 8 13 5 | 8 5 0 |
| | JULY. | 11 10 39 | 11 17 36 | | JULY. | 8 1 49 | 7 19 30 |
| | Aug. | | L. | | | 6 14 33 | 6 11 28 |
| | | 9 23 23 | | | Aug | | |
| | SEPT. | 8 12 7 | 8 11 56 | | SEPT. | 5 3 17 | 5 4 12 |
| | Oct | 8 0 51 | 7 21 22 | | Oct | 4 16 1 | 4 20 47 |
| | Nov | 6 18 85 | 6 7 44 | | | 19 10 23 | 18 22 36 |
| | DEC | 6 2 19 | 5 19 13 | | Nov. | 3 4 45 | 3 12 27 |
| | 0 | (20 20 41 | 21 7 7 | | DEC | 2 17 29 | 3 2 39 |
| 48. | JAN | 4 15 4 | 4 7 56 | 51. | Jan | f 1 6 13 | 1 15 9 |
| G.F. | FEB | 3 3 48 | 2 21 47 | c. | DAM | 130 18 57 | 81 1 56 |
| 22 12 44 | MAR. | 8 16 82 | 8 12 42 | | FEB | ••• | ••• |
| | APRIL | 2 5 16 | 2 4 24 | 23 6 10 | 16.5 | (1 7 42 | 1 11 15 |
| | 3/7 | (1 18 0 | 1 20 16 | 25 6 10 | MAR. | 30 20 26 | 30 19 36 |
| | MAY . | 81 6 44 | 81 11 84 | | 0 | (14 14 48 | 15 0 59 |
| | 0 | (15 1 6 | 14 18 25 | | APRIL | 29 9 10 | 29 3 46 |
| | JUNE . | 29 19 28 | 30 1 45 | | MAY . | 28 21 54 | 28 12 42 |
| | July . | 29 8 12 | 29 14 32 | | JUNE . | 27 10 38 | 26 23 25 |
| | Aug | 27 20 56 | 28 2 8 | | JULY . | 26 23 22 | 26 12 32 |
| | SEPT. | 26 9 40 | 26 12 58 | | Aug | 25 12 6 | 25 4 11 |
| | Oct | 25 22 24 | 25 23 37 | | SEPT | 24 0 50 | 23 21 45 |
| | Nov | 24 11 8 | 24 10 21 | | 0 | (8 19 12 | 8 12 57 |
| | DEC. | 23 23 52 | 28 21 16 | | Ocr | 23 13 34 | |
| | | 10 10 01 | | | Nov | , | 22 10 0 |
| 49. | JAN | 22 12 87 | 22 8 27 | | DEC. | | 22 2 12 |
| E. | FEB | 21 1 21 | 20 20 2 | | | | |
| 22 18 33 | MAR | 22 14 5 | 22 8 21 | 52. | JAN. | 20 3 46 | 20 16 1 |
| | APRIL | 21 2 49 | 20 21 44 | B.A. | FEB | 18 16 31 | 19 3 18 |
| | 0 | (5 21 11 | 6 4 37 | 22 11 59 | MAR. | 19 5 15 | 19 12 25 |
| | MAY . | 20 15 89 | 20 12 14 | | APRIL | 17 17 59 | 17 20 4 |
| | JUNE . | 19 4 17 | 19 8 81 | | MAY . | | 17 3 8 |
| | JULY. | | 18 19 0 | | JUNE | | 15 10 40 |
| | Aug. | 1 | 17 9 59 | | JULY | | |
| | SEPT. | 15 18 29 | 16 0 9 | | AUG. | | |
| | 4 | | | | SEPT. | | |
| | Oct | 12 | | | _ | 11 22 28 | |
| | 0 | (30 1 85 | | | Oct. | | |
| | Nov. | 18 19 57 | 14 1 36 | | Nov. | 9 23 51 | |
| | DEC. | 18 8 41 | 13 13 8 | 11 | DEC. | . 9 25 51 | . 10 0 01 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|--|--|--|---|---|--|--|
| A.D. 53. 6. March. d. h. m. 22 17 48 | Jan Feb O Mar April | d. h. m. 8 12 35 7 1 19 21 19 41 8 14 3 7 2 47 | d. h. m. 8 23 46 7 15 1 21 14 0 9 3 15 7 12 45 | A.D. 56. D.C. March. d. h. m. 22 11 14 | Jan Feb Mar April May . | d. h. m. 6 3 45 4 16 29 5 5 13 8 17 57 8 6 41 | d. h. m. 5 20 47 4 13 25 5 6 38 3 23 27 3 14 57 |
| | MAY . JUNE . JULY . AUG O SEPT | 6 15 31 5 4 15 4 16 59 { 3 5 43 {18 0 5 1 18 27 { 1 7 11 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | | JUNE. JULY. AUG SEPT OCT Nov | 1 19 25 { 1 8 9 { 80 20 58 29 9 37 27 22 21 27 11 5 25 23 49 | 2 4 80 1 16 4 81 2 6 29 11 25 27 20 48 27 6 49 25 17 47 |
| 54. F. | Nov DEC JAN O FEB | \$\\ \begin{array}{cccccccccccccccccccccccccccccccccccc | 30 10 25 29 5 6 29 0 39 27 19 22 11 1 44 26 11 50 | 57. B. 22 17 8 | O DEC JAN FEB MAR APRIL | 10 18 11 25 12 33 24 1 17 22 14 1 24 2 46 22 15 30 | 11 2 40 25 5 47 23 18 50 22 8 58 24 0 2 22 15 40 |
| 22 23 87 | MAR APRIL MAY. JUNE. JULY. O AUG SEPT Oct Nov | 27 11 86 26 0 20 25 18 4 24 1 48 23 14 32 7 8 54 22 3 16 20 16 0 20 4 44 18 17 28 | 28 1 17 26 11 47 25 20 3 24 3 7 23 10 6 7 8 59 21 18 0 20 3 48 19 16 4 18 7 2 | | MAY . O JUNE . JULY . AUG SEPT OCT Nov | 22 4 14 5 22 86 20 16 58 20 5 42 18 18 26 17 7 10 16 19 54 {15 8 38 30 3 0 | 22 7 16 5 18 35 20 22 8 20 11 48 19 0 14 17 11 40 16 22 37 15 9 25 30 2 45 |
| . 55. E. 23 5 26 | DEC JAN FEB MAR APRIL MAY . JUNE . JULY . | 18 6 12 (16 18 57 (81 13 19 15 7 41 16 20 25 15 9 9 14 21 58 13 10 87 (12 23 21 | 18 0 16 16 18 52 31 17 33 15 18 24 17 6 29 15 21 8 15 9 7 13 18 45 13 2 57 | 58. A. 22 22 52 | Jan Feb Mar April May . O June . July . | 14 21 22 13 10 6 11 22 50 13 11 34 12 0 18 (11 13 2 (26 7 24 10 1 46 9 14 30 | 14 20 16 13 7 11 11 18 16 13 5 58 11 18 25 11 8 10 26 11 54 9 28 2 9 14 83 |
| | O AUG SEPT OCT Nov DEC | 27 17 43 11 12 5 10 0 49 9 18 88 8 2 17 7 15 1 | 27 9 20 11 10 44 9 19 6 9 4 45 7 16 10 7 5 34 | | Aug Sept Oct Nov O | 8 3 14 6 15 58 6 4 42 { 4 17 26 { 19 11 48 4 6 10 | 8 6 4 6 20 57 6 10 56 4 28 53 19 2 51 4 11 52 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|---|----------------------------|--------|------------------------------|------------------------------|
| A.D. 59. | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| G. March. | JAN | 2 18 55 | 2 22 55 | 62. | JAN | 28 22 49 | 29 11 47 |
| d. h. m. | FEB | 1 7 39 | 1 9 5 | March. | FEB | 27 11 33 | 28 1 27 |
| 28 4 41 | MAR | 2 20 23 | 2 18 40 | d. h. m. | 0 | (14 5 55 | 14 0 28 |
| | APRIL | (197 | 1 4 9 | 22 22 7 | MAR | 29 0 17 | 29 12 9 |
| | ALPRIL | 30 21 51 | 30 14 17 | | APRIL | 27 13 1 | 27 20 30 |
| | MAY . | 30 10 35 | 30 1 51 | | MAY . | 27 1 45 | 27 3 28 |
| (| June . | 28 23 19 | 28 15 20 | | June . | 25 14 29 | 25 10 7 |
| | JULY. | 28 12 3 | 28 6 41 | | July. | 25 3 13 | 24 17 34 |
| | Aug | 27 0 47 | 26 23 20 | | Aug | 23 15 57 | 23 2 51 |
| | SEPT | 25 13 31 | 25 16 21 | İ | 0 | (7 10 19 | 7 15 57 |
| | Oct | 25 2 15 | 25 8 51 | | SEPT | 22 4 41 | 21 14 50 |
| | Nov | 23 14 59 | 24 0 2 | | Oct | 21 17 25 | 21 5 52 |
| | DEC | 23 3 43 | 23 13 30 | | Nov | 20 6 9 | 19 23 34 |
| | | | | | DEC | 19 18 53 | 19 18 50 |
| 60. | JAN | 21 16 28 | 22 1 5 | | | | |
| F.E. | FEB | 20 5 12 | 20 10 56 | 63. | т | 10 7 90 | 18 14 7 |
| 22 10 80 | MAR. | 20 17 56 | 20 19 29 | В. | JAN | 18 7 38 16 20 22 | 18 14 7 17 7 45 |
| | 0 | (4 12 18 | 4 20 50 | 23 3 56 | FEB | | 18 22 39 |
| | APRIL | 19 6 40 | 19 3 26 | 25 5 50 | MAR | 18 9 6 | |
| | MAY . | 18 19 24 | 18 11 42 | | APRIL | 16 21 50 16 10 34 | 17 10 32 16 19 48 |
| | JUNE . | 17 8 8 | 16 21 17 | | MAY. | | |
| | JULY . | 16 20 52 | 16 9 7 | | JUNE. | 14 23 18 | 15 3 21 |
| | Aug | 15 9 36 | 14 23 35 | | JULY . | 14 12 2 | 14 10 21 |
| | SEPT. | (13 22 20 | 13 16 26 | | Aug | 13 0 46 | 12 17 48 |
| | 0 | 28 16 42 | 28 12 22 | | SEPT | 11 13 30 | 11 2 42 |
| | Ocr. | 18 11 4 | 13 10 46 | 1 | Ocr | 11 2 14 | 10 13 47 |
| | Nov. | 11 23 48 | 12 5 15 | | Nov. | 9 14 58 | |
| | DEC | 11 12 32 | 11 22 33 | | DEC | 9 3 42 | 8 19 32 |
| 61. | JAN | 10 1 16 | 10 13 38 | 64. | JAN | 7 16 26 | 7 13 27 |
| D. | FEB. | 8 14 0 | 9 2 7 | A.G. | 0 | 22 10 48 | 22 16 52 |
| 22 16 19 | MAR. | (10 2 44 | 10 12 8 | | FEB | 6 5 10 | 6 7 59 |
| | O NIAR | 21 21 6 | 24 21 6 | 22 9 45 | MAR | 6 17 54 | 7 1 46 |
| | APRIL | 8 15 28 | 8 20 15 | | APRIL | 5 6 38 | 5 17 38 |
| | MAY . | 8 4 12 | 8 3 21 | | MAY . | 4 19 22 | 5 6 55 |
| | JUNE . | 6 16 56 | 6 10 26 | | June . | 3 8 6 | 3 17 42 |
| | JULY. | 6 5 40 | 5 18 36 | | JULY . | (2 20 50 | 3 2 38 |
| | | 4 18 24 | 4 4 54 | | 0 | 17 15 12 | 17 5 13 |
| | Aug | | 2 18 7 | | | (1 9 34 | 1 10 40 |
| | SEPT |) | | | Aug | 30 22 18 | 30 18 51 |
| | 0 | 1 | 18 4 13 | | SEPT | 29 11 2 | 29 3 58 |
| | Ост | 2 19 52 | 2 10 20 | | Oct | 28 23 46 | 28 14 83 |
| | Nov | 1 8 36 | 1 4 53 | | Nov. | 27 12 30 | 27 2 57 |
| | D | (30 21 20 | $\begin{cases} 1 & 0.22 \\ 20 & 10 & 0 \end{cases}$ | | DEC. | 27 1 14 | 26 17 10 |
| | DEC | 80 10 4 | £30 19 9 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. 68. | | d. h. m. | d. h. m. |
| 65. | 0 | ſ10 19 37 | 11 7 9 | с.в. March. | JAN | 23 5 9 | 23 8 28 |
| F. March. | JAN | 25 13 59 | 25 8 56 | d. h. m. | FEB. | 21 17 53 | 21 18 5 |
| d. h. m. | FEB | 24 2 43 | 24 1 41 | 22 9 0 | MAR | 22 6 37 | 22 3 17 |
| 22 15 34 | MAR | 25 15 27 | 25 18 37 | | APRIL | 20 19 21 | 20 12 45 |
| | APRIL | 24 4 11 | 24 10 44 | | 0 | $\int 5 13 43$ | 6 1 29 |
| , | MAY. | 23 16 55 | 24 1 19 | | MAY. | (20 8 5 | 19 23 19 |
| | June. | 22 5 39 | 22 13 57 | | June. | 18 20 49 | 18 11 41 |
| | 0 | f 7 0 1 | 6 12 1 | | July. | 18 9 33 | 18 2 9 |
| | JULY. | 21 18 23 | 22 0 54 | | Aug | 16 22 17 | 16 18 21 |
| | Aug | 20 7 7 | 20 10 42 | | SEPT | 15 11 1 | 15 11 32 |
| | SEPT | 18 19 51 | 18 20 13 | | Oct | ∫14 28 45 | 15 4 41 |
| 1 | Oct | 18 8 35 | 18 6 4 | | 0 | 29 18 7 | 29 7 9 |
| | Nov | 16 21 19 | 16 16 38 | | Nov | 13 12 29 | 13 20 50 |
| | Dec | 16 10 3 | 16 4 5 | | DEC | 13 1 13 | 13 11 20 |
| | 0 | 31 4 25 | 31 15 22 | 69. | JAN. | 11 13 58 | 11 23 52 |
| 66. | JAN | 14 22 48 | 14 16 26 | A. | FEB. | 10 2 42 | 10 10 27 |
| E. | FEB. | 13 11 32 | 13 5 45 | 22 14 49 | MAR. | 11 15 26 | 11 19 25 |
| 22 21 23 | MAR. | 15 0 16 | 14 20 2 | 22 13 30 | APRIL | (10 4 10 | 10 8 21 |
| 22 21 20 | APRIL | 13 13 0 | 13 11 12 | | O | 24 22 32 | 25 7 47 |
| | MAY. | 13 1 44 | 13 2 45 | | MAY. | 9 16 54 | 9 11 9 |
| | June . | (11 14 28 | 11 18 4 | | June . | 8 5 38 | 7 19 49 |
| | 0 | 26 8 50 | 26 1 49 | | JULY. | 7 18 22 | 7 6 22 |
| | JULY. | 11 8 12 | 11 8 32 | | Aug. | 6 7 6 | 5 19 81 |
| | Aug | 9 15 56 | 9 21 48 | | SEPT. | 4 19 50 | 4 11 21 |
| | SEPT. | 8 4 40 | 8 9 59 | | Oct | (4 8 34 | 4 5 16 |
| | Ocr. | 7 17 24 | 7 21 24 | | 0 | 19 2 56 | 18 21 89 |
| | Nov. | 6 6 8 | 6 8 27 | | Nov. | 2 21 18 | 8 0 2 |
| | DEC | 5 18 52 | 5 19 20 | | | (210 2 | 2 18 14 |
| 07 | | | | | DEC | 81 22 46 | 2 10 11 |
| 67. D. | JAN | 4 7 36 | 4 6 8 | | | (01 22 40 | |
| 23 3 12 | FEB | 2 20 20 | 2 16 54 | 70. | JAN | ſ | 1 10 86 |
| 25 5 12 | MAR | 4 9 4 | 4 3 56 | G. | | 180 11 80 | 81 0 22 |
| | APRIL | 2 21 48 | 2 15 40 | | Fев | | |
| | M 0 | 2 10 32 | 2 4 32 | 22 20 38 | MAR | 1 0 14 | 1 11 28 |
| | MAY O | 17 4 54 | 17 12 2 | | | (80 12 58 | 80 20 18 |
| | T | 31 23 16 | 31 18 43 | | APRIL | 29 1 42 | 29 8 40 |
| | JUNE . | 30 12 0 | 30 9 59 | | MAY . | 28 14 26 | 28 10 32 |
| | JULY. | 30 0 44 | 30 1 44 | | JUNE. | 27 8 10 | 26 17 57 |
| | Aug | 28 13 28 | 28 17 16 | | JULY. | 26 15 54 | 26 8 6 |
| | SEPT | 27 2 12 | 27 8 2 | | Aug | 25 4 38 | 24 14 51 |
| | 1 | 26 14 56 | 26 21 46 | | SEPT. | 23 17 22 | 28 5 41 |
| 1 . | Nov. | 10 9 18 | 9 22 27 | | Oct | 23 6 6 | 22 23 17 |
| | DEC. | 10-0 | 25 10 25 | | Nov. | 21 18 50 | 21 18 84 |
| 1 | DEC. | 24 16 24 | 24 21 58 | | DEC | 21 7 34 | 21 18 59 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|--------------------------------------|--|---|--|
| A.D. 71. F. March. d. h. m. 23 2 27 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV | d. h. m. 19 20 19 18 9 3 { 5 3 25 { 19 21 47 18 10 31 17 23 15 16 11 59 16 0 48 (14 18 27 { 29 7 49 13 2 11 12 14 55 11 3 39 | d. h. m. 20 7 50 18 22 58 4 21 46 20 11 1 18 20 22 18 3 50 16 10 30 15 17 26 14 1 47 29 18 3 12 12 26 12 2 0 10 18 28 | A.D. 74. B. March. d. h. m. 22 19 58 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | d. h. m. 16 11 29 15 0 18 16 12 57 15 1 41 14 14 25 13 8 9 12 15 58 11 4 37 9 17 21 9 6 5 7 18 49 { 7 7 83 { 22 1 55 | d. h. m. 16 4 59 14 21 2 16 18 48 15 6 11 14 21 38 13 11 15 12 23 10 11 9 41 9 19 32 9 5 22 7 15 42 7 2 42 22 10 51 |
| 72. E.D. | DEC JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov | 10 16 23 9 5 7 7 17 51 22 12 18 8 6 85 6 19 19 6 8 3 4 20 47 4 9 31 \$ 2 22 15 {17 16 87 \$ 1 10 59 \$ 30 23 48 30 12 27 29 1 11 28 13 55 | 10 13 8 9 8 30 8 3 1 22 10 0 8 19 17 7 8 36 6 19 3 5 8 23 4 10 35 2 17 49 17 15 55 1 2 2 30 12 5 30 0 29 28 15 22 28 8 23 | 75. A. 23 1 42 | JAN FEB MAR AFRIL MAY . JUNE . O . JULY . AUG SEPT OCT NOV O DEC | 28 8 87 26 16 21 11 10 48 | 2 4 44 81 18 50 80 7 49 28 19 51 28 7 17 26 18 21 3 11 10 48 |
| 73. c. 22 14 5 | DEC. JAN. O FEB. MAR. APRIL MAY. JUNE. O AUG. SEPT. OCT. NOV. DEC. | 27 2 40 {10 21 2 25 15 24 27 4 8 25 16 52 25 5 36 23 18 20 23 7 4 { 7 1 26 {21 19 48 20 8 32 19 21 16 18 10 0 | 27 2 85 11 2 8 25 20 42 27 18 30 26 4 4 25 16 5 24 1 57 28 10 29 6 16 11 21 18 41 20 8 26 19 18 28 18 0 55 | 76. g.f. 22 7 81 | Jan. Feb. Mar. April May O June July Aug. Sept. Oct. Nov. O Dec. | 22 8 2 21 20 40 5 15 20 9 8 19 22 16 18 10 56 16 28 42 16 12 20 | 28 2 26 3 28 13 27 2 22 1 26 3 21 14 46 8 5 19 18 0 20 5 80 4 19 21 11 8 18 18 6 2 17 4 85 6 16 19 10 0 15 8 85 2 29 11 8 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (() Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------|-------------------------------------|----------------------------|----------|------------------------------------|------------------------------------|
| A.D. 77. | | d. h. m. | d. h. m. | A.D. 80. | | d. h. m. | d. h. m. |
| March. | Jan | 13 2 39 | 13 7 44 | B.A. | JAN | 10 17 49 | 11 8 11 |
| d. $h.$ $m.$ | FEB | 11 15 23 | 11 17 36 | March. $d. h. m.$ | FEB | 9 6 33 | 9 19 43 |
| 22 13 20 | MAR | 13 4 7 | 13 2 44 | 22 6 47 | MAR. | (9 19 17 | 10 9 14 |
| | APRIL | 11 16 51 | 11 11 42 | | 0 | 24 13 39 | 24 6 53 |
| | MAY . | 11 5 35 | 10 21 23 | | APRIL | 8 8 1 | 8 19 46 |
| | June . | 9 18 19 | 9 8 38 | | MAY. | 7 20 45 | 8 4 U |
| | JULY. | 9 7 3 | 8 22 0 | | JUNE. | 6 9 29 | 6 10 54 |
| | Aug. | 7 19 47 | 7 13 29 | | JULY. | 5 22 13 | 5 17 86 |
| | SEPT. | 6 8 31 | 6 6 29 | | Aug. | 4 10 57 | 4 1 14 |
| | Oct | 5 21 15 | 6 0 2 | | SEPT. | (2 23 41 | 2 10 48 |
| | Nov. | 4 9 59 | 4 17 2 | | 0 | 17 18 3 | 17 23 46 |
| | DEC | 3 22 43 | 4 8 37 | | Oct | 2 12 25 | 1 22 52 |
| | DE0 | 0 10 | 2 0 0. | 1 | Ocr | (1 1 9 | 31 13 58 |
| | - | 0.44.0 | | i | Nov | 1 | 1 |
| 78. | JAN | 2 11 27 | 2 22 11 | | T) | , | 80 7 89 |
| 1 | FEB | 1 0 11 | 1 9 39 | İ | DEC | 30 2 37 | 30 2 46 |
| 22 19 9 | MAR | 2 12 55 | 2 19 12 | | | | 8 |
| | | 1 1 39 | 1 3 22 | 81. | JAN | 28 15 22 | 28 21 50 |
| | APRILO | 1/ | 16 3 36 | G. | FEB | 27 4 5 | 27 15 12 |
| | | 30 14 23 | 30 10 57 | 22 12 35 | MAR | 28 16 49 | 29 5 57 |
| | MAY . | 30 3 7 | 29 18 54 | | APRIL | 27 5 88 | 27 17 46 |
| | June. | 28 15 51 | 28 4 19 | | MAY. | 26 18 17 | 27 8 8 |
| | JULY. | 28 4 35 | 27 16 7 | | JUNE. | 25 7 1 | 25 10 45 |
| | Aug | 26 17 19 | 26 6 42 | | JULY. | 24 19 45 | 24 17 58 |
| | SEPT | 25 6 3 | 24 23 49 | | Aug | 23 8 29 | 28 1 45 |
| | 0 | (10 0 25 | 9 20 56 | | SEPT | 21 21 18 | 21 10 57 |
| | Ocr | 24 18 47 | 24 18 30 | | Oct | 21 9 57 | 20 22 18 |
| 1 | Nov | 23 7 31 | 23 13 20 | | Nov | 19 22 41 | 19 11 52 |
| | DEC | 22 20 15 | 23 6 51 | | DEC | 19 11 25 | 19 8 47 |
| | | | | | | | |
| 79. | JAN | 21 9 0 | 21 21 59 | 82. | JAN | 18 0 10 | 17 01 00 |
| c. | FEB. | 19 21 44 | 20 10 20 | F. | | | 17 21 20 |
| 23 0 58 | MAR | 21 10 28 | 21 20 6 | | O Fra | 1 18 32 | 2 1 20 |
| | 0 | (5 4 50 | 5 3 58 | 22 18 21 | FER. | (16 12 54 | 16 15 26 |
| | APRIL | 19 23 12 | 20 3 57 | 22 10 21 | MAR | 18 1 38 | 18 8 52 |
| | MAY. | 19 11 56 | 19 10 50 | | APRIL | 16 14 22 | 17 0 32 |
| | June . | 18 0 40 | 17 17 47 | | MAY . | 16 3 6 | 16 13 50 |
| | JULY. | 17 13 24 | 17 1 57 | | June. | 14 15 50 | 15 0 47 |
| | Aug. | 16 2 8 | 15 12 20 | | July. | ∫14 4 84 | 14 10 2 |
| | SEPT. | (14 14 52 | - 1 | | . 0 | 28 22 56 | 28 12 5 |
| | O O | 13 | | | Aug | 12 17 18 | 12 18 28 |
| | OCT. | 14 3 36 | 29 12 33 | | SEPT | 11 6 2 | 11 8 4 |
| | Nov. | 12 16 20 | 13 18 4 | | Oct | 10 18 46 | 10 12 32 |
| | | | 12 12 43 | | Nov | 9 7 30 | 8 28 20 |
| | DEC | 12 5 4 | 12 8 23 | . 1 | DEC | 8 20 14 | 8 11 40 |
| | | 1 | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|--|--|---|---|--|---|
| A.D. 83. E. March. d. h. m. 23 0 18 | JAN O FEB MAR APRIL MAY . JUNE . O AUG SEPT OCT NOV DEC | d. h. m. { 7 8 59 | d. h. m. 7 1 34 22 15 38 5 16 48 7 8 59 6 1 26 5 17 20 4 7 57 3 20 58 17 19 14 2 8 16 31 18 38 30 4 38 29 14 52 28 1 35 27 12 54 | A.D. 86. A. March. d. h. m. 22 17 40 | JAN FEB MAR APRIL MAY O JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 4 0 8 2 12 52 4 1 36 2 14 20 (2 3 4 16 21 26 31 15 48 30 4 32 29 17 16 28 6 0 26 18 44 26 7 28 (10 1 50 (24 20 12 24 8 56 | d. h. m. 4 6 49 2 17 5 4 2 19 2 11 1 1 20 2 17 8 31 31 6 18 29 18 24 29 8 53 28 1 21 26 18 59 26 12 38 9 15 48 25 5 14 24 19 57 |
| 84. D.c. 22 6 2 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov DEC | $\begin{cases} 11 & 12 & 9 \\ 26 & 6 & 31 \\ 24 & 19 & 15 \\ 25 & 7 & 59 \\ 23 & 20 & 43 \\ 23 & 9 & 27 \\ 21 & 22 & 11 \\ \begin{cases} 6 & 16 & 83 \\ 21 & 10 & 55 \\ 19 & 23 & 39 \\ 18 & 12 & 23 \\ 18 & 1 & 7 \\ 16 & 13 & 51 \\ 16 & 2 & 35 \end{cases}$ | 11 23 80 26 0 51 24 13 85 25 8 16 23 17 56 23 9 18 22 0 38 6 9 17 21 15 20 20 5 9 18 17 56 18 5 54 16 17 19 16 4 17 | 87. G. 22 23 28 | JAN FEB. , MAR APRIL O MAY . JUNE . JULY . AUG . SEPT . OCT . O NOV . DEC . | $\begin{array}{c} 22\ 21\ 41 \\ 21\ 10\ 25 \\ 22\ 23\ 9 \\ 21\ 11\ 58 \\ \left\{ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 23 8 27 21 18 48 28 3 25 21 10 59 6 14 28 20 18 29 19 2 57 18 13 26 17 2 38 15 18 40 15 12 58 30 6 25 14 8 0 14 2 26 |
| 85. B. 22 11 51 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 18 5 82 12 18 16 11 7 0 10 19 44 9 8 28 7 21 12 7. 9 56 5 22 40 20 17 2 | 14 14 55 13 1 17 14 11 46 12 22 55 12 11 19 11 1 14 10 16 32 9 8 34 8 0 39 7 16 2 6 6 18 20 6 45 5 19 14 | 88. F.E. 22 5 17 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 7 22 10 7 10 54 5 23 38 4 12 22 4 1 6 2 13 50 2 2 34 | 7 1 21 5 10 33 3 22 26 3 13 24 2 7 11 4 2 2 33 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|---|------------------------------|----------------------------|-------------|------------------------------------|------------------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. 92. | | d. h. m. | d. h. m. |
| 89. D. | JAN | 30 4 2 | 30 15 43 | A.G. | JAN | 27 19 12 | 27 13 4 |
| March. | FEB | 28 16 46 | ••• | March. $d. h. m.$ | FEB | 26 7 56 | 26 4 33 |
| d. h. m. | | (| 1 6 43 | 22 4 33 | MAR | 26 20 40 | 26 20 42 |
| 22 11 6 | Mar. O | 15 11 8 | 15 5 24 | | APRIL | 25 9 24 | 25 12 49 |
| | | (30 5 30 | 30 18 37 | | MAY . | 24 22 8 | 25 4 6 |
| | APRIL | 28 18 14 | 29 3 49 | | JUNE. | 23 10 52 | 23 18 0 |
| | MAY. | 28 6 58 | 28 11 15 | | JULY. | 22 23 36 | 23 6 19 |
| | June. | 26 19 42 | 26 17 56 | | Aug. | 21 12 20 | 21 17 22 |
| | JULY. | 26 8 26 | 26 1 3 | | SEPT. | 20 1 4 | 20 3 46 |
| 1 | Aug | 24 21 10 | 24 9 36 | | Oct. | 19 13 48 | 19 14 1 |
| 1 1 | 0 | 8 15 32 | 8 20 34 | | Nov. | 18 2 32 | 18 0 36 |
| | SEPT | 23 9 54 | 22 20 28 | | DEC. | 17 15 16 | 17 11 36 |
| } | Ост | 22 22 38 | 22 10 9 | | DEC | 17 15 10 | 11 11 90 |
| | Nov | 21 11 22 | 21 2 37 | | 0 | (1 9 39 | 1 18 56 |
| | DEC | 21 0 6 | 20 21 6 | 93. | JAN | 16 4 1 | 15 28 6 |
| 00 | T | 19 12 51 | 10 10 10 | F. | FEB. | 14 16 45 | 14 11 9 |
| 90. c. | Jan | 18 1 35 | 19 16 16 | 22 10 21 | MAR. | 16 5 29 | 16 0 2 |
| " | FEB | | 18 10 32 | 22 10 21 | APRIL | 14 18 13 | 14 13 56 |
| 00 10 77 | 0 | $\begin{cases} 4 & 19 & 57 \\ 10 & 14 & 10 \end{cases}$ | 4 18 10 | | MAY. | 14 6 57 | 14 4 47 |
| 22 16 55 | MAR. | (19 14 19 | 20 2 35 | | June . | (12 19 41 | 12 20 8 |
| | APRIL | 18 3 3 | 18 15 49 | | O O | 127 14 8 | 27 9 27 |
| | MAY. | 17 15 47 | 18 2 16 | | July . | 12 8 25 | 12 11 23 |
| | JUNE. | 16 4 31 | 16 10 42 | | ١ ـ | 10 21 9 | |
| | JULY. | 15 17 15 | 15 18 9 | | AUG SEPT | 9 9 53 | 9 15 32 |
| ļ | Aug | 14 5 59 | 14 1 41 | | | 8 22 37 | |
| | ~ 0 | 29 0 21 | 28 22 58 | | Oct | , | |
| | SEPT | 12 18 43 | 12 10 15 | | Nov. | 7 11 21 | 7 16 8 |
| | Oct | 12 7 27 | 11 20 32 | | DEC | 7 0 5 | 7 3 20 |
| | Nov. | 10 20 11 | 10 9 1 | | 0 | (21 18 27 | 21 18 39 |
| | DEC | 10 8 55 | 9 23 47 | 94. | JAN | 5 12 50 | 5 14 6 |
| 91. | JAN | 8 21 40 | 8 16 27 | E. | FEB | 4 1 34 | 4 0 23 |
| в. | FEB | 7 10 24 | 7 10 11 | 22 16 10 | MAR. | 5 14 18 | 5 10 30 |
| | 0 | 22 4 46 | 22 10 27 | | APRIL | 4 3 2 | 3 10 50 3 20 56 |
| 22 22 44 | MAR | 8 23 8 | 9 3 53 | | | | |
| | APRIL | 7 11 52 | 7 20 24 | | MAY. | | 8 8 24 |
| | MAY . | 7 0 86 | 7 10 54 | | JUNE. |] | 1 21 23 |
| | JUNE . | 5 13 20 | 5 23 3 | | 0 | | 17 2 42 |
| | JULY. | 5 2 4 | 5 9 11 | | JULY . | 1 17 14 | 1 12 1 |
| | Aug | 3 14 48 | 3 18 6 | | A ==== | 81 5 58 | 81 8 52 |
| | 0 | 18 9 10 | 17 23 10 | | AUG | 29 18 42 | 29 20 15 |
| | SEPT | 2 3 32 | 2 2 45 | | SEPT | 28 7 26 | 28 12 20 |
| | 0 | (1 16 16 | 1 11 55 | | Oct | 27 20 10 | 28 8 80 |
| 1. | Oct | 81 5 0 | 30 22 8 | | Nov. | 26 8 54 | 26 17 18 |
| | Nov. | 29 17 44 | 29 9 42 | | Dag | 11 3 16 | 10 19 18 |
| 1 | DEC. | 29 6 28 | | 11 . | DEC. | 1 25 21 38 | 26 5 87 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) |
|----------------------------|-----------|------------------------------------|------------------------------------|----------------------------|--------|-------------------------------------|-----------------------------|
| A.D. 95. | | d. h. m. | d. h. m. | A.D. 98. | | d. h. m. | d. h. m. |
| D. | Jan | 24 10 22 | 24 16 27 | G. | JAN | 21 1 32 | 21 11 4 |
| March. | FEB | 22 23 6 | 23 1 58 | March. | FEB. | 19 14 16 | 20 3 27 |
| d. h. m. 22 21 59 | MAR | 24 11 50 | 24 10 39 | d. h. m. 22 15 26 | MAR. | 21 3 0 | 21 16 50 |
| 22 21 00 | APRIL | 23 0 34 | 22 19 9 | | 0 | (4 21 22 | 4 15 11 |
| | MAY. | 22 13 18 | 22 4 26 | | APRIL | 19 15 44 | 20 3 14 |
| , | 0 | (6 7 40 | 6 17 7 | | MAY. | 19 4 28 | 19 11 24 |
| | June . | 21 2 2 | 20 15 27 | | JUNE . | 17 17 12 | 17 18 20 |
| | JULY. | 20 14 46 | 20 4 45 | | JULY. | 17 5 56 | 17 1 11 |
| | Aug. | 19 3 30 | 18 20 23 | | Aug | 15 18 40 | 15 9 1 |
| | SEPT | 17 16 14 | 17 13 45 | | SEPT | (14 7 24 | 13 18 45 |
| | Ост. | 17 4 58 | 17 7 48 | ' | 0 | 29 1 46 | 29 7 40 |
| - | Nov. | 15 17 42 | 16 1 15 | | Ocr | 13 20 8 | 13 7 3 |
| : | DEC | 15 6 26 | 15 17 8 | | Nov | 12 8 52 | 11 22 11 |
| | 2 | 20 0 20 | | | DEC | 11 21 36 | 11 15 44 |
| 96. | JAN | 13 19 11 | 14 6 46 | | | | |
| С. В. | FEB | 12 7 55 | 12 18 5 | . 99. | JAN | 10 10 20 | 10 10 37 |
| 22 3 48 | MAR | 12 20 39 | 13 3 20 | F. | FEB. | 8 23 5 | 9 5 22 |
| | APRIL | 11 9 23 | 11 11 8 | 22 21 14 | MAR. | 10 11 49 | 10 22 31 |
| | MAY . | 10 22 7 | 10 18 25 | 22 21 11 | APRIL | 9 0 33 | 9 13 9 |
| | JUNE . | 9 10 51 | 9 2 8 | | MAY . | 8 13 17 | 9 0 54 |
| | JULY. | 8 23 35 | 8 11 27 | | JUNE . | 7 2 1 | 7 10 18 |
| | Aug | 7 12 19 | 6 23 16 | | July. | 6 14 45 | 6 18 18 |
| | SEPT | 6 1 3 | 5 18 59 | | Aug. | 5 8 29 | 5 1 44 |
| | Oct | (5 18 47 | 5 7 23 | | SEPT. | 8 16 18 | 8 9 51 |
| | 0 | 20 8 9 | 20 5 39 | | Oct. | 8 4 57 | 2 19 22 |
| | Nov | 4 2 31 | 4 2 21 | | Nov. | 1 17 41 | (1 6 47 |
| | DEC | 3 15 15 | 8 21 27 | | 2,011 | (1 6 25 | 30 20 24 |
| | | | | l | DEC | 80 19 9 | 30 12 1 |
| 97. | JAN | 1 2 4 0 | 2 15 7 | | 1 | 1 | |
| A. | JAM | 31 16 44 | ••• | 100 | T | 29 7 54 | 29 5 8 |
| | FEB | ••• | 1 6 12 | 100. E.D. | JAN | (13 2 16 | 13 9 59 |
| 22 9 37 | Mar | § 2 5 28 | 2 18 23 | | FEB. | 27 20 38 | 1 |
| 22 9 51 | III.A.Ite | (31 18 12 | (1 8 55 | 22 8 8 | | 28 9 22 | 28 15 50 |
| | 0 | $\int 15 \ 12 \ 34$ | 315 10 46 | 22 0 0 | APRIL | 26 22 6 | 27 7 19 |
| | APRIL | (30 6 56 | (30 11 33 | ll . | MAY. | 26 10 50 | 26 20 40 |
| | MAY . | 29 19 40 | 29 18 17 | | JUNE . | 24 23 34 | 25 7 52 |
| | June. | 28 8 24 | 28 1 12 | | JULY. | 24 12 18 | |
| | July. | 27 21 8 | 27 9 25 | | 0 | (8 6 40 | |
| | Aug. | 26 9 52 | 25 19 56 | | Aug. | 28 1 2 | 1 |
| | SEPT | 24 22 36 | 24 9 26 | | SEPT. | | 21 11 24 |
| | . 0 | 9 16 58 | 1 | | Oct. | | 20 21 18 |
| | Oct | 24 11 20 | 1 | | Nov. | | المناه الما |
| | Nov. | | 22 20 45 | | DEC. | 40 0 70 | |
| | DEC | 22 12 48 | 22 16 21 | | | | í |
| | 1 | 11. | | H | 1 | 1 | ľ |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl |
|--|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------------|----------------------------------|
| A D | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m |
| A.D. 101. | Jan | 17 16 42 | 17 9 53 | 104. G.F. | - | | |
| c. | 0 | (1 11 4 | 1 23 59 | March. | JAN | 15 7 52 | 15 15 34 |
| March. | FEB. | 16 5 26 | 16 0 33 | d. h. m. 22 2 18 | FEB | 13 20 36 | 14 1 36 |
| $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | MAR. | 17 18 10 | 17 16 9 | 44 4 18 | Mar | 14 9 20 | 14 10 24 |
| 0 01 | APRIL | 16 6 54 | | | APRIL | 12 22 4 | 12 18 40 |
| | MAY. | 15 19 38 | | | MAY . | $\int 12 \ 10 \ 48$ | 12 3 16 |
| | JUNE. | | 15 23 52 | | _ 0 | (27 5 10 | 27 14 31 |
| | _ | 14 8 22 | 14 14 32 | | JUNE. | 10 23 32 | 10 13 10 |
| | JULY. | 13 21 6 | 14 3 49 | | JULY. | 10 12 16 | 10 1 18 |
| | 0 | 128 15 28 | 28 2 34 | | Aug | 9 1 0 | 8 15 46 |
| | Aug | 12 9 50 | 12 15 42 | | SEPT | 7 13 44 | 7 8 32 |
| | SEPT | 10 22 34 | 11 2 38 | | Ocr | 7 2 28 | 7 2 35 |
| | Oct | 10 11 18 | 10 13 9 | | Nov | 5 15 12 | 5 20 42 |
| | Nov | 9 0 2 | 8 23 43 | | 0 | 20 9 34 | 20 0 34 |
| | Dec | 8 12 46 | 8 10 32 | | DEC | 5 3 56 | 5 13 38 |
| 102. | JAN | (7 1 31 | 6 21 41 | 407 | _ | | |
| в: | 0 | 21 19 53 | 22 7 32 | 105. E. | JAN | 3 16 41 | 4 4 32 |
| | FEB | 5 14 15 | 5 9 12 | | FEB | .2 5 25 | 2 16 56 |
| 22 14 41 | MAR | 7 2 59 | 6 21 19 | 22 8 7 | Mar | 3 18 9 | 4 3 1 |
| | APRIL | 5 15 43 | 5 10 25 | | APRIL | 2 6 53 | 2 11 17 |
| | MAY . | 5 4 27 | 5 0 36 | | | 1 19 37 | 1 18 33 |
| | June. | 3 17 11 | 3 15 39 | | May O | ₹ 16 13 59 | 16 21 5 |
| | JULY. | (3 5 55 | 3 7 5 | | | (31 8 21 | 31 1 49 |
| | 0 | 18 0 17 | 17 16 50 | | June. | 29 21 5 | 29 10 9 |
| | | (1 18 39 | 1 22 14 | | July. | 29 9 49 | 28 20 37 |
| | Aug | 31 7 23 | 31 12 38 | | Aug | 27 22 33 | 27 9 55 |
| | SEPT | 29 20 7 | 30 2 2 | | SEPT | 26 11 17 | 26 2 9 |
| | Ост | 29 8 51 | 29 14 31 | | Ocr | 26 0 1 | 25 20 39 |
| | Nov | 27 21 35 | 28 2 14 | | 0 | 5 9 18 23 | 9 15 18 |
| | DEC | 27 10 19 | 27 13 15 | | Nov | 24 12 45 | 24 15 59 |
| | | | 20 20 | | DEC | 24 1 29 | 24 10 36 |
| 103. | JAN | 25 23 3 | 25 23 37 | | | | |
| A. | FEB | 24 11 47 | 24 9 31 | 106. | JAN | 22 14 13 | 23 8 5 |
| 22 20 30 | MAR | 26 0 31 | 25 19 26 | D. | FEB | 21 2 57 | 21 16 39 |
| | APRIL | 24 13 15 | 24 6 3 | 22 13 56 | MAR | 22 15 41 | 23 3 20 |
| | MAY . | 24 1 59 | 23 18 3 | | APRIL | 21 4 25 | 21 11 42 |
| | June . | 22 14 43 | 22 7 46 | | MAY . | 20 17 9 | 20 18 41 |
| | JULY. | 22 3 27 | 21 23 8 | | JUNE . | 19 5 53 | 19 1 21 |
| | Aug | 20 16 11 | 20 15 32 | | JULY. | 18 18 37 | 18 8 49 |
| | SEPT | 19 4 55 | 19 8 8 | | Aug. | 17 7 21 | 16 18 8 |
| | Ост. | 18 17 39 | 19 0 7 | | SEPT. | 15 20 5 | 15 6 10 |
| | Nov. | 17. 6 23 | 17 14 51 | | Oct | 15 8 49 | 14 21 17 |
| | 0 | (2 0 45 | 1 15 6 | | Nov. | 13 21 33 | 13 15 7 |
| | DEC | 16 19 7 | 17 4 2 | | DEC. | 13 10 17 | 18 10 81 |
| | | | = = | 1 1 1 | | TO TO T. | TO TO DT |

| a Tay NN to B ye | on Memoryanya, | Charles and The Section of the Secti | refer telepoortes — as an artistative management and pro- | IAIT TIME | , letter ton a ren y | THE OWNER PROJECTION OF THE PROPERTY AND THE CONTRACTORS. | enter researches annuelle septembries de la constant de la constan |
|-------------------------------|----------------|--|---|----------------------------|--|---|--|
| Mean Vertical Equitions | Month, | Mean New Mean (Full Ect) | True New Moon, [- Full Rel.] | Mosn Vorusi Equinox, | Month. | Mean New Meon. (∋ Full Ecl.) | True New Moon. (○ Full Ecl.) |
| A.D. 107. | | d. h, m. | d. h. m. | A.D. 110. | ************************************** | d. h. m. | d, h, m, |
| March. | Jan. | 11 28 2 | 12 5 50 | March. | JAN | 8 14 12 | 8 7 14 |
| d. h. m. | Fun. | 10 11 46 | 10 28 29 . | d. h. m. | FEB | 7 2 56 | 6 21 4 |
| 22 19 45 | MAH., | (12 0 30 | 12 14 19 | 22 18 11 | MAR | 8 15 40 | 8 11 57 |
| | | 126 18 52 | 26 12 57 | | APRIL | 7 4 24 | 7 8 84 |
| | Aran. | 10 18 14 | 11 2 6 | | MAY . | 6 17 8 | $6\ 19\ 21$ |
| | MAY . | 100 1 Dec | 10 11 18 | | JUNE . | 5 5 52 | 5 10 87 |
| | Junn . | H 14 42 | H 1H 40 | | Jray . | 4 18 86 | 5 0 45 |
| | dray. | : B B 26 | H 1 29 | | Ara | 8 7 20 | 8 18 88 |
| | Ara | 6 16 10 | B H4H | | See. | 1 20 4 | 2 1 10 |
| | BEPT . | 1 6 4 64 | 4 17 266 | | Oer. | (1 8 48 | 1 12 6 |
| | () | (19/23/16 | 20 4 15 | | Cher. | (30 21 32 | 80 22 49 |
| | Oct. | 4 17 84 | 4 4 40 | | Nov. | 29 10 16 | 29 9 85 |
| | Nov. | 8 6 22 | 2 18 27 | | Date : | 28 28 0 | 28 20 81 |
| | Dac. | 2 19 6 | 2 10 49 | | 1 | | |
| | | C 1 7 to | 1 5 4 | 111. | | , 12 17 22 | 18 2 54 |
| 108. | JAN | (80 20 84 | 80 28 55 | ĸ. | JAN | (27 11 44 | 27 7 87 |
| B. A. | Fun. | 29 9 19 | 20 17 54 | • | FEB | 26 0 29 | 25/19/8 |
| | 7.3 | (15 8 41 | 15 2 11 | 22 19 0 | Ман. | 27 18 18 | 27 7 25 |
| 22 1 81 | Man. | 29 22 8 | 180 10 42 | | Агин | 201 1 17 | 25 20 46 |
| | Arnie | 28 10 47 | 28 22 18 | | MAY | 25 14 41 | 25 11 17 |
| | May . | 27 28 81 | 28 11 25 | | Jink. | 21 8 25 | 24 2 85 |
| | June . | 20 12 15 | 26 18 8 | | | 7 H 21 47 | H 17 0 |
| | July . | 20 0 10 | 26 1 47 | | Arny . | (28 16 9 | 28 18 6 |
| | Ava | . 24 18 48 | 21 9 40 | | Arm. | 22 4 58 | 22 9 10 |
| | 0 | (H H 5 | 8 6 10 | | MEET. | 28) 17 87 | 20 28 22 |
| | Harr. | 28 2 27 | 22 IH 84 | | Oct. | 20 0 21 | 20 12 86 |
| | Oct | 22 18 11 | 22 5 7 | | Nov | 18 10 5 | 19 0 58 |
| | Nov | 21 8 55 | 90 17 80 | | DEC. | IH 7 49 | 1H 12 17 |
| | Drc | 20 16 89 | 20 H 11 | | | 0 0 11 | 0 0 04 |
| 100 | JAN. | 19 5 28 | 19 0 25 | 11 2. p.o. | JAN. | 16 20 88 | 2 2 84 16 22 54 |
| 109. e. | Fab. | 17 18 7 | | | Fan. | 15 9 17 | |
| 444 | | (4 19 99 | 17 17 40 4 19 1 | 22 0 49 | MAR. | 15 22 1 | 15 8 48 15 18 24 |
| 92 7 93 | MAN. | 19 8 51 | 19 10 55 | A. 17 417 | Aren | 14 10 45 | 14 4 18 |
| mes / 350 | Arnii | 17 19 85 | 18 8 10 | | MAY. | 18 28 20 | 18 15 18 |
| | May . | 17 8 19 | 17 17 87 | | Junn. | (12 12 18 | 12 4 0 |
| | Junn . | 15 21 8 | 16 5 57 | | O | 27 6 88 | 27 10 7 |
| | July. | 15 9 47 | | | JULY . | 12 0.67 | 11 18 85 |
| | Aug. | (18 22 81 | 14 1 49 | | Aug. | 10 18 41 | 10 10 41 |
| | 0 | 29 16 58 | 1 | | SEPT. | 9 2 25 | 9 8 81 |
| | SEFT. | 12 11 15 | 12 10 55 | | Ocr. | 8 15 9 | 8 20 10 |
| | Oct. | 11 28 59 | 11 20 20 | | Nov. | 7 8 58 | 7 11 52 |
| | Nov. | 10 12 48 | 10 6 58 | | Dac. | (6 16 87 | 7 2 1 |
| | Dac. | 10 1 27 | 9 18 82 | | 0 | 21 10 59 | 21 8 82 |
| | Aut Miles | AT 4 44 1 | ET ATT COM | | -45 | " m= + + + + + + + + + + + + + + + + + + | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (() Full Ecl.) |
|---|---|--|--|--|--|---|--|
| A.D. 113. B. March. d. h. m. 22 6 38 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | d. h. m. 5 5 22 3 18 6 5 6 50 3 19 34 3 8 18 { 1 21 2 16 16 24 { 1 9 46 30 22 30 29 11 14 27 23 58 27 12 42 26 1 26 25 14 10 | d. h. m. 5 14 25 4 1 2 5 10 13 3 18 27 3 2 33 { 1 11 32 17 1 14 30 22 20 30 11 38 29 3 28 27 21 11 27 15 40 26 9 31 26 1 36 | A.D. 116. F.E. March. d. h. m. 22 0 4 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov | d. h. m. 2 20 32 1 9 16 { 1 22 0 81 10 44 { 15 5 6 29 23 28 20 12 12 28 0 56 27 13 40 26 2 24 24 15 8 { 9 9 30 24 3 52 22 16 36 29 5 20 | d. h. m. 3 0 15 1 18 50 2 11 4 (1 0 17 14 22 28 30 10 36 29 18 47 28 1 49 27 8 51 25 16 56 24 2 55 9 15 41 23 15 28 22 6 29 21 28 50 |
| 114. A. 22 12 27 | JAN FEB MAR APRIL MAY JUNE JULY . AUG SEPT O CT O Nov DEC | 15 10 14 | 24 15 15 23 2 20 24 11 17 22 18 49 22 1 49 20 9 24 19 18 40 18 6 32 16 21 26 16 15 1 31 14 26 15 10 14 15 5 31 | 117. - D. 22 5 58 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 22 5 20 20 18 4 19 6 48 20 19 32 19 8 16 18 21 0 17 9 44 16 22 28 15 11 12 18 28 56 18 12 40 12 1 24 11 14 8 | 20 18 24 19 12 47 21 5 41 19 20 9 19 7 57 17 17 81 17 1 42 15 9 85 13 18 4 13 8 58 11 15 27 11 4 57 |
| 115. c. 22 18 16 | JAN. FEB. MAR. APRIL O MAY JUNE JULY AUG. SEFT. O CT. O Nov. DEC. | 13 13 11 {12 | 26 17 28 11 19 4 10 1 43 9 8 40 7 16 59 6 3 39 5 17 19 1 21 5 31 4 9 55 | | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV | 10 2 58 8 15 37 23 9 59 10 4 21 8 17 5 8 5 49 6 18 53 6 7 17 { 4 20 1 19 14 23 8 8 45 2 21 29 { 1 10 13 30 22 57 80 11 41 | 3 10 28 2 19 58 1 6 1 30 17 4 |

| Moun Vertali Equinos, | Month. | Meanly, | True New Moon. (Full Ect.) | Messa Vernst Equinox. | Month, | Mean New Moon. (○ Full Ect.) | True New Moon. () Full Eol.) |
|-----------------------------|-------------|-------------------|-----------------------------------|-----------------------------|--------------------|------------------------------------|------------------------------------|
| A.D. 119. | Jan., | d. h. m. | d. h. m. | A.D. 122. | T 16 APPER & HANGE | d. h. m. | d. h. ns. |
| h. | U 4.81 | (12 18 48 | 24 IS S | March. | JAN | 25 15 86 | 26 0 15 |
| March | Fen. | 127 18 10 | 18 H 12 27 H 12 | d, h , m . | FEB | 21 4 20 | 21 9 57 |
| 22 17 30 | MAR. | 29 1 54 | 27 H 12 . 24 28 12 | 22 10 57 | Мли. | 25 17 4 | 25 18 22 |
| | Armii | 27 14 88 | 27 15 46 | | Aran | 21 5 48 | 21 2 14 |
| | Mar . | 27 8 22 | 27 (1 20 | | Mar . | 28 18 82 | 28 10 29 |
| | Ji sa | 25 16 6 | 25 21 10 | | Tarana | 7 12 54 | 7 22 29 |
| | Jun. | 25 4 50 | 25 10 50 | | JUNE. | (22 7 16 | 21 20 9 |
| | 1.7 | 1 8 28 12 | H 10 1 | | Ava. | 21 20 0 | 21 8 9 |
| | At a | 1 28 17 81 | 28 28 16 | | Serr. | | 19 22 47 |
| | Sert. | 22 6 18 | 22 10 47 | | Oct. | 18 21 28 18 10 12 | 18 15 49 18 10 17 |
| | Ocr. | 21 19 2 | 21 21 47 | | Nov. | 16 22 56 | 17 4 47 |
| 1 | Nov. | 20 7 46 | 20 8 40 | | 0 | (1 17 18 | 1 9 22 |
| | Disc. | 19 20 80 | 19 19 90 | | DEC. | 16 11 40 | 16 22 1 |
| | | | | | | (217 22 407 | 10 44 1 |
| 120. | JAN | 18 9 14 | IH 6 21 | 123. | T | ** 0.04 | 4 # 4.5 # # |
| A.tt. | \$ 1 | 1 2 8 86 | 2 15 25 | 123. | JAN Fkn | 15 0 21 | 15 12 57 |
| | Fan | ्रीम या एस | 16 17 28 | 22 16 46 | MAR. | 18 18 8 15 1 52 | 14 1 15 15 11 4 |
| 21 23 19 | Man | 17 10 42 | 17 4 741 | LE 111 311 | Aren | 18 14 86 | 15 11 4 18 19 8 |
| , | Arun. | 15 28 26 | 15 17 27 | | May. | (18 8 20 | 18 2 4 |
| | MAY . | 15 12 10 | 15 7 11 | | () | 27 21 42 | 28 8 87 |
| 200 | Juma. | 14 0 54 | ts 22 5 | | Junk . | 11 16 4 | 11 9 8 |
| | Just . | 118 18 18 | 18 18 40 | | July . | 11 4 48 | 10 17 25 |
| | 1) | क्षित्र स ० | 28 0 27 | | Ara. | 9 17 82 | 9 8 54 |
| | Ara. , | 12 2 22 | 12 h in | | SEPT. | 8 6 16 | 7 17 20 |
| | HEPT. | 10 15 6 | 10 20 12 | | Oct | 7 19 0 | 7 9 46 |
| | Oct | 10 8 50 | 10 10 12 | | Nov. | (6 7 44 | 6 4 28 |
| | Nov | 8 16 81 | H 28 10 | | O | 21 2 6 | 21 0 14 |
| | Disc. | 8 5 18 | 811 8 | | Dge. | 5 20 28 | 5 28 59 |
| 121. | T | 0 40 0 | 801 4 | | | | |
| 1 22 ti | JAW | 8 18 8 | 8 22 7 | 124, | JAN | 4 9 18 | 4 18 42 |
| 22 5 H | FEB MAR | 6 19 81 | 5 8 11 6 17 88 | c.n. | FER. | 2 21 57 | 8 11 7 |
| 22 U N | | | | 21 22 83 | MAH. | 8 10 41 | 4 0 84 |
| | APRIL MAY . | 5 8 18 4 20 50 | 5 8 8 | | APRIL | 1 28 25 | 2 11 8 |
| , and a second | June . | 8 9 48 | 8 0 47 | | | (1 12 9 | 1 19 15 |
| | Juny . | 2 22 27 | 2 14 28 | | MAY . | 81 0 58 | 81 2 10 |
| | aumi, | (1 11 11 | 1 5 52 | | June. | 29 18 87 | 29 8 49 |
| | Aug | 80 28 55 | 80 22 87 | | JULY . | 29 2 21 | 28 16 24 |
| | SEPT. | 20 12 80 | 29 15 45 | | Aug | 27 15 5 | 27 1 52 |
| | Ocr. | 20 1 28 | 29 8 16 | | SEPT | 26 8 49 | 25 14 5 |
| | Nov. | 27 14 7 | 27 28 26 | | Ост | 25 16 88 | 25 5 18 |
| | 0 | (19 8 20 | 11 23 80 | | Nov | 24 5 17 | 28 28 9 |
| | DEC. | 27 2 51 | 27 12 47 | 1.4 | Dac | 28 18 1 | 28 18 28 |
| | | , | 1 | | | | |

| | | | | | 1 | | |
|----------------------------|--------------|------------------------------------|-----------------------------|----------------------------|--------|------------------------------------|----------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| A.D. 125. | | d. h. m. | d. h. m. | A.D. 128. | | d. h. m. | d. h. m. |
| Α. | JAN | 22 6 46 | 22 13 38 | E.D. | JAN | 19 21 55 | 19 15 41 |
| March. | FEB | 20 19 30 | 21 7 5 | March. | FEB. | 18 10 39 | 18 4 57 |
| d. h. m. 22 4 23 | MAR. | 22 8 14 | 22 21 45 | d. h. m. 21 21 50 | MAR. | 18 23 23 | 18 19 12 |
| | 0 | (6 2 36 | 5 20 25 | 21 21 00 | APRIL | 17 12 7 | 17 10 19 |
| | APRIL | 20 20 58 | 21 9 26 | | MAY . | 17 0 51 | 17 1 49 |
| | MAY . | 20 9 42 | 20 18 33 | | June . | 15 13 35 | 15 17 7 |
| | JUNE. | 18 22 26 | 19 2 4 | | JULY. | 15 2 19 | 15 7 33 |
| | JULY. | 18 11 10 | 18 9 4 | | Aug. | 13 15 8 | 18 20 51 |
| | Aug | 16 23 54 | 16 16 40 | | SEPT. | 12 3 47 | 12 9 4 |
| | SEPT | (15 12 38 | 15 1 44 | | Ocr. | 11 16 31 | 11 20 34 |
| | 0 | (30 7 0 | 30 12 1 | | Nov. | 10 5 15 | 10 7 89 |
| | Oct | 15 1 22 | 14 13 0 | | DEC. | 9 17 59 | 9 18 33 |
| | Nov | 13 14 6 | 13 2 50 | | | , | |
| | DEC | 13 2 50 | 12 19 3 | 400 | T | (8 6 44 | 8 5 20 |
| 126. | JAN | 11 15 34 | 11 13 0 | 129. c. | Jan. | 23 1 6 | 23 10 48 |
| G. | FEB. | 10 4 18 | 10 7 26 | \ | FEB. | 6 19 28 | 6 16 3 |
| 22 10 12 | MAR. | (11 17 2 | 12 1 3 | 00 0 00 | MAR. | 8 8 12 | 8 3 0 |
| 22 10 12 | 0 | 26 11 24 | 26 10 5 | 22 3 39 | APRIL | 6 20 56 | 6 14 40 |
| | APRIL | 10 5 46 | 10 16 44 | | MAY. | 6 9 40 | 6 8 88 |
| | MAY . | | 10 5 51 | | June . | 4 22 24 | 4 17 46 |
| | JUNE . | | 8 16 31 | | JULY. | (411 8 | 4 9 5 |
| | JULY | | 8 1 24 | | 0 | 19 5 80 | 19 0 34 |
| | Aug. | 6 8 42 | 6 9 30 | | Aug. | 2 23 52 | 3 0 54 |
| | SEPT. | . (4 21 26 | 4 17 47 | | SEPT. | 1 12 36 | 1 16 29 |
| | 0 | 19 15 48 | 19 13 28 | | | (1 1 20 | 1 7 19 |
| 1 | Ост. | 4 10 10 | 4 3 3 | | Oct | 80 14 4 | 30 21 5 |
| | Nov. | . 2 22 54 | 2 13 49 | | Nov. | 29 2 48 | 29 9 48 |
| | Dag | 2 11 38 | 2 2 18 | | DEC. | 28 15 32 | 28 21 11 |
| | DEC. | · { ··· | 31 16 34 | | | | |
| 127. | T | (1 0 22 | | | | (12 9 55 | 12 10 24 |
| F. | JAN. FEB. | HIQUID (| 30 8 19 | 130. | JAN | 27 4 17 | |
| | T.P.P. | 1 1 5 | 1 1 2 | В. | FEB. | 25 17 1 | 1 |
| 22 16 | I MAR, | 11 | | 22 9 28 | MAR. | | 27 2 12 |
| | | 30 14 3 | 1 | | APRIL | 25 18 29 | l . |
| | APRI | | | | May . | 4 | |
| | MAY | | . | H | JUNE . | | 28 10 42 |
| 0. | JUNE | | | | 0 | (8 14 19 | 8 17 85 |
| | JULY | | ł | | JULY . | . (23 8 4 | 1 23 1 16 |
| | Aug. | | į. | | Aug. | 1 | 21 17 87 |
| | 0 | (9.03 | 7 8 13 38 | | SEPT. | . 20 10 9 | 20 10 55 |
| | SEPT. | 1.2 | 1 | 11 | Oct. | . 19 22 58 | 3 20 4 7 |
| | Ocr. | 23 7 4 | 3 23 5 14 | | Nov. | . 18 11 37 | 18 20 17 |
| | Nov. | 21, 20 2 | 7 21 15 59 | | DEC. | . 18 0 21 | 18 10 41 |
| | DEC. | 21 9 1 | 1 21 3 20 | | | , | |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|---|--|---|--|
| A.D. 131. A. March. d. h. m. 22 15 16 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | d. h. m. { 1 18 48 16 13 5 15 1 49 16 14 38 15 3 17 14 16 1 { 13 4 45 } { 27 23 7 12 17 29 11 6 18 9 18 57 9 7 41 7 20 25 7 9 9 | d. h. m. 1 11 46 16 23 4 15 9 30 16 18 18 15 2 9 14 9 54 12 18 37 28 7 16 12 5 19 10 18 39 9 10 40 9 4 44 7 23 34 7 17 45 | A.D. 134. p. March. d. h. m. 22 8 43 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O Nov DEC | d. h. m. 13 4 15 11 16 59 13 5 43 {11 18 27 {26 12 49 11 7 11 9 19 55 9 8 39 7 21 23 6 10 7 { 5 22 51 {20 17 13 4 11 35 4 0 19 | d. h. m. 13 8 4 12 2 25 13 18 28 12 7 34 26 5 31 11 17 53 10 2 5 9 9 19 7 16 38 6 1 1 5 11 15 20 23 47 3 23 49 3 14 50 |
| 132. G.F. 21 21 5 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | 5 21 54 4 10 38 4 23 22 3 12 6 3 0 50 1 13 34 (1 2 18 30 15 2 29 3 46 27 16 30 27 5 14 (10 23 86 (25 17 58) 25 6 42 | 6 9 59 4 28 35 5 10 29 8 19 8 8 2 24 { 1 9 18 30 16 43 30 2 1 28 14 0 27 5 2 26 22 50 10 28 19 25 18 18 25 18 38 | 135. c. 22 14 32 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 2 18 3 1 1 47 2 14 32 1 3 16 30 16 0 30 4 44 28 17 28 28 6 12 26 18 56 25 7 40 24 20 24 23 9 8 22 21 52 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 133. E. 22 2 54 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG . SEPT OCT O NOV | 28 19 27 22 8 11 28 20 55 22 9 89 7 4 1 21 22 23 20 11 7 19 23 51 18 12 35 17 1 19 {16 14 8 {31 8 25 15 2 47 14 15 81 | 24 7 15 22 22 9 24 9 59 22 19 10 7 0 6 22 2 32 20 9 10 19 16 13 18 0 43 16 11 35 16 1 21 31 14 9 14 18 0 14 12 44 | 136. B.A. 21 20 21 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 11 17 57 | 3 6 2 35 20 12 59 19 5 19 18 20 36 17 10 13 16 22 6 5 15 8 38 7 29 9 31 13 18 33 13 4 31 11 14 54 |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|-------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. | T | d. h. m. | d. h. m. | A.D. 140. D.C. | Jan | d. h. m. | d. h. m. |
| 137. | JAN | 9 19 25 | 9 13 43 | March. | | | |
| G. March. | FEB | 5889 | 8 2 15 | d. h. m. | FEB. | 5 28 19 | 6 8 46 |
| d. h. m. | 0 | 23 2 31 | 23 16 13 | 21 19 36 | MAR | 6 12 3 | 6 18 10 |
| 22 2 9 | MAR | 9 20 53 | 9 15 43 | | APRIL | 5 0 47 | 5 2 12 |
| | APRIL | 8 9 37 | 8 6 9 | 12.0 | MAY. | 4 13 31 | 4 9 42 |
| | MAY . | 7.22 21 | 7 21 20 | | JUNE . | (3 2 15 | 2 17 40 |
| | JUNE . | 6.11 5 | 6 12 46 | | 0 | 17 20 37 | 18 5 24 |
| | JULY. | 5 28 49 | 6 3 47 | | JULY . | 2 14 59 | f 2 8 12 |
| | Aug. | (4 12 33 | 4 17 54 | | | (1 8 48 | (31 15 9 |
| | 0 | 19 6 55 | 18 17 37 | | Aug | 80 16 27 | 80 5 57 |
| | SEPT | 3. 1 17 | 3 6 55 | | SEPT | 29 5 11 | 28 23 16 |
| | Oct | 2 14 1 | 2 19 2 | | Ост. | 28 17 55 | 28 18 5 |
| | 001. | (1 2 45 | 1 6 31 | | Nov. | 27. 6 39 | 27 12 55 |
| | Nov | 30 15 29 | 30 17 36 | | ľ | (12 1 1 | 11 18 10 |
| - ' | Dra | 30 4 13 | 30 4 24 | | DEC. | 26 19 28 | 27 6 19 |
| | DEC | 50 4 15 | 50 4 24 | | DEC | (20 10 20 | 21 0 10 |
| 138 | JAN. | 28 16 58 | 28 14 59 | 141. | JAN | 25 8 7 | 25 21 16 |
| F. | | (12 11 20 | | B. | | 23 20 51 | 24 9 24 |
| | 0 | 12 | 12 23 9 | 1 | FEB | | |
| 00 7 50 | FEB. | 27 5 42 | 27 1 30 | 22 1 25 | MAR | 25 9 86 | 25 18 59 |
| 22 7 58 | MAR | 28.18 26 | 28 12 28 | 1 | APRIL | 23 22 20 | 24 2 48 |
| | APRIL | 27 7 10 | 27 0 25 | | MAY . | 28 11 4 | 23 9 81 |
| | MAY . | 26 19 54 | 26 13 47 | | 0 | 5 7 5 26 | 7 10 9 |
| | June . | 25 8 38 | 25 4 34 | ' | JUNE. | 21 23 48 | 21 16 80 |
| | JULY. | 24 21 22 | 24 20 18 | | JULY. | 21 12 32 | 21 0 47 |
| 1 | 0 | 8 15 44 | 8 8 13 | | Aug | 20 1 16 | 19 11 28 |
| | Aug | 23 10 6 | 23 12 19 | | SEPT | 18 14 0 | 18 0 57 |
| 1 | SEPT | 21 22 50 | 22 3 53 | | Ocr | 18 2 44 | 17 17 88 |
| | Oct | 21 11 34 | 21 18 30 | | Nov | 16 15 28 | 16 12 28 |
| | Nov | 20 0 18 | 20 7 54 | | 0 | (1 9 50 | 1 9 18 |
| | Dec | 19 13 2 | 19 20 2 | | DEC | 16 4 12 | 16 7 59 |
| 139. | JAN | 18 1 47 | 18 6 55 | 142. | JAN | 14 16 56 | 15 2 40 |
| E. | FEB | 16 14 31 | 16 16 39 | A. | FEB. | 18 5 40 | 13 18 59 |
| 22 13 47 | MAR. | 18 3 15 | 18 1 39 | 22 7 14 | MAR. | 14 18 24 | 15 18 17 |
| 1 | APRIL | 16 15 59 | 16 10 34 | 14 | | 18 7 8 | 13 18 38 |
| | MAY. | 16 4 43 | 15 20 15 | | APRIL | | |
| | JUNE . | 14 17 27 | 14 7 35 | 1 | MAY . | \{\frac{12}{27}\] 19\] 52 | 18 2 42 |
| | JULY . | 14 6 11 | 1 | | T | 27 14 14 | 27 10 48 |
| | Aug. | 12 18 55 | | | June. | 11 8 86 | 11 9 84 |
| | SEPT. | | 12 12 41 | 1 | July . | 10 21 20 | 10 16 20 |
| | OCT. | | 11 5 50 | | Aug | 9 10 4 | 9 0 5 |
| | | 10 20 23 | 10 23 28 | | SEPT | 7 22 48 | 7 9 46 |
| | Nov. | 9 9 7 | 9 16 31 | | Oct | 7 11 32 | 6 22 8 |
| | DEC | 8 21 51 | V | | Nov | 6 0 16 | 5 13 26 |
| | 0 | (23 16 13 | 23 7 54 | | DEC | 5.18 0 | 5 7 18 |
| t | 1 | 1 | 1 | lţ. | 1 | | |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|--|--------|-------------------|---|----------------|--------|-------------------|----------------|
| Equinox. | | (O Full Ecl.) | (O Full Ect.) | Equinox. | | (O Full Ecl.) | O Fall Fict.) |
| A.D. 143. | | d. h. m. | d. h. m. | A.D. 146. | | d. h. m. | d. h. m. |
| G. | Jan | 4 1 45 | 4 2 21 | c. March. | Jan | 30 5 39 | 30 0 4 |
| $\begin{array}{c c} \text{March.} \\ d. \ h. \ m. \end{array}$ | FEB | 2 14 29 | 2 21 16 | d. $h.$ $m.$ | FEB | 28 18 23 | 28 12 46 |
| 22 13 2 | MAR | 4 3 13 | 4 14 30 | 22 6 29 | Mar | 30 7 7 | 30 2 23 |
| | APRIL | 2 15 57 | 3 5 2 | V | APRIL | 28 19 51 | 28 17 1 |
| | 0 | 17 10 19 | 17 3 46 | | MAY. | 28 8 85 | 28 8 17 |
| | 3.5 | (2 4 41 | 2 16 38 | | June. | 23 21 19 | 26 23 37 |
| | MAY. | 31 17 25 | (1 1 48 | | JULY. | 26 10 3 | 26 14 25 |
| | JUNE . | 30 6 9 | $\begin{cases} 30 & 9 & 29 \end{cases}$ | | Aug | 24 22 47 | 25 4 16 |
| | July . | 29 18 53 | 29 16 46 | | SEPT | 23 11 31 | 23 17 7 |
| | Aug | 28 7 37 | 28 0 40 | | Ост | 23 0 15 | 23 5 7 |
| | SEPT | 26 20 21 | 26 10 2 | | Nov | 21 12 59 | 21 16 33 |
| | 0 | (11 14 48 | 11 19 52 | | DEC | 21 1 43 | 21 3 32 |
| | Oct | 126 9 5 | 25 21 29 | | | | |
| | Nov | 24 21 49 | 24 11 17 | 147. | JAN | 19 14 27 | 19 14 5 |
| | DEC | 24 10 33 | 24 3 17 | в. | 0 | (3 8 49 | 3 18 31 |
| | | 22 23 18 | 22 20 49 | | FEB | 18 3 11 | 18 0 21 |
| 144. F.E. | JAN. | 21 12 2 | 21 14 51 | 22 12 18 | MAR. | 19 15 56 | 19 10 46 |
| | FEB. | 22 0 46 | 22 8 7 | | APRIL | 18 4 40 | 17 21 53 |
| 21 18 51 | MAR | (5 19 8 | 5 17 52 | | MAY. | 17 17 24 | 17 10 18 |
| 1 | 0 | 20 13 30 | 20 23 36 | | JUNE . | 16 6 8 | 16 0 17 |
| | APRIL | 20 2 14 | 20 23 30 | | JULY . | (15 18 52 | 15 15 39 |
| | MAY. | 18 14 58 | 18 23 37 | | 0 | 30 13 14 | 30 8 16 |
| | JUNE . | 18 3 42 | 18 8 50 | | Aug. | 14 7 36 | 14 7 48 |
| | JULY. | 16 16 26 | 16 17 21 | | SEPT. | 12 20 20 | 12 23 55 |
| | Aug. | | 15 2 4 | | Oct. | 12 9 4 | 12 15 22 |
| | SEPT | 29 23 32 | 29 21 5 | | Nov. | 10 21 48 | 11 5 38 |
| | 0 | 14 17 54 | 14 11 41 | | DEC. | 10 10 32 | 10 18 32 |
| | Ocr | 10 0 00 | 12 22 35 | l | | | |
| | Nov. | 12 19 22 | 12 11 0 | 148. | Т | (8 23 16 | 9 6 1 |
| | DEC. | | | A.G. | JAN. | 23 17 89 | |
| 1.15. | JAN. | | 11 0 55 | | FEB. | 7 12 0 | 1 |
| D. | FEB. | | 9 16 8 | 21 18 7 | 1 | | |
| 22 0 40 | MAR. | 14 | | 21.10 | APRIL | 6 13 28 | |
| | . 0 | 26 3 56 | | | MAY | | |
| | APRIL | | | | June | | |
| | MAY | | | | JULY | | |
| | June | | 1 | | 0 | 1 1 1 | 2 19 1 6 |
| | JULY | ب ب ما | 1 | | Aug. | | |
| | Aug. | 1 | | 1 | | 1 | 8 1 0 39 |
| | SEPT. | 14 | | | SEPT. | | |
| | 0 | 119 8 20 | | II . | Oct. | . 30 6 36 | _ |
| | Oct. | . 4 2 42 | | - H | Nov. | | |
| | Nov. | - | | 11 | DEC. | | 28 19 18 |
| , | DEC. | 2 4 10 | | II . | 20200 | | -5 -5 -50 |
| | 1 | 1 31 16 5 | 4 81 12 8 | 11 | | | جد دو دد ا |

| | | | | | | | |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|------------|------------------------------------|------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 149. | | d. h. m. | d. h. m. | A.D. 152. | | d. h. m. | d. h. m. |
| F. | 0 | (12 2 26 | 11 19 55 | C.B. | JAN. | 24 11 59 | 24 15 47 |
| | JAN | 26 20 48 | 27 7 38 | March. | FEB. | 23 0 43 | 23 9 58 |
| March. d , h , m . | FEB | 25 9 32 | 25 17 48 | d. h. m. 21 17 22 | MAR. | 23 13 27 | 24 1 45 |
| 21 23 55 | MAR. | 26 22 17 | 27 2 17 | 21 11 22 | | 22 2 11 | 22 14 45 |
| | APRIL | 25 11 1 | 25 9 45 | | APRIL | | 1 |
| | MAY . | 24 23 45 | 24 17 13 | | 3.0 | 6 20 33 | 6 12 37 |
| | JUNE . | 23 12 29 | | | MAY . | 21 14 55 | 22 1 5 |
| 1 | | 1 | | | June . | 20 3 39 | 20 9 26 |
| - 1 | 0 | 8 6 51 | 8 14 23 | | JULY. | 19 16 23 | 19 16 55 |
| | JULY. | (23 1 13 | 22 12 23 | | Aug | 18 5 7 | 18 0 84 |
| ļ | Aug | 21 13 57 | 21 1 48 | | SEPT | 16 17 51 | 16 9 16 |
| | SEPT | 20 2 41 | 19 18 2 | | Oct | §16 6 85 | 15 19 44 |
| 1 | Ост., | 19 15 25 | 19 12 25 | | 0 | 231 0 57 | 81 7 59 |
| Į | Nov | 18 4 9 | 18 7 34 | | Nov | 14 19 19 | 14 8 22 |
| | DEC | 17 16 53 | 18 1 58 | | DEC | 14 8 8 | 18 28 14 |
| 150. | JAN | 16 5 38 | 16 18 17 | 153. | JAN | 12 20 48 | 12 15 55 |
| E. | FEB | 14 18 22 | 15 7 46 | Δ. | FEB | 11 9 32 | 11 9 87 |
| 22 5 44 | MAR., | 16 7 6 | 16 18 27 | 21 23 11 | MAR. | 12 22 16 | 18 8 12 |
| | APRIL | 14 19 50 | 15 2 52 | | APRIL | (11 11 0 | 11 19 33 |
| | MAY . | 14 8 34 | 14 9 54 | | 0 | 26 5 22 | 26 1 87 |
| | JUNE . | 12 21 18 | 12 16 39 | | MAY . | 10 23 44 | 11 9 52 |
| | July. | 12 10 2 | 12 0 8 | | June . | 9 12 28 | 9 21 54 |
| | Aug., | 10 22 46 | 10 9 30 | | JULY. | 9 1 12 | 9 8 1 |
| | SEPT | 9 11 30 | 8 21 36 | | Aug | 7 18 56 | 7 16 59 |
| | Ост. , | 9 0 14 | 8 12 49 | | SEPT | 6 2 40 | 6 1 43 |
| | Nov | (7 12 58 | 7 6 44 | | OCT | | |
| | 0 | 22 7 20 | 22 8 16 | | Nov. | | 5 11 0 |
| | DEC | 7 1 42 | 7 2 12 | | DEC. | | 8 21 21 |
| 151 | _ | | | | DEC. | 8 16 52 | 8 9 2 |
| 151. D. | JAN., | 5 14 26 | 5 21 31 | 15.4 | - | (2 5 36 | 1 22 8 |
| | FEB | 4 3 10 | 4 15 6 | 154. G. | JAN | 81 18 20 | 81 12 24 |
| 22 11 33 | MAR | 5 15 54 | 6 5 53 | ٠, ٠, | FEB | · | |
| į | APRIL | 4 4 38 | 4 17 33 | | | (274 | 2 3 49 |
| | MAY . | 3 17 22 | 4 2 36 | 22 5 0 | MAR.O | 17 1 26 | 17 10 81 |
| | 0 | (18 11 44 | 18 6 33 | | | 31 19 48 | 31 19 54 |
| | June. | 2 6 6 | 2 9 56 | | APRIL | 30 8 32 | 30 11 55 |
| | July . | § 1 18 50 | 1 16 39 | | MAY . | 29 21 16 | 80 8 8 |
| | | (31 7 34 | 30 23 52 | | JUNE. | 28 10 0 | 28 16 58 |
| 0 | Aug | 29 20 18 | 29 8 35 | } | JULY . | 27 22 44 | |
| | SEPT | 28 9 2 | 27 19 39 | | Aug. | 26 11 28 | |
| - | Oct | 27 21 46 | 27 9 32 | 1 | SEPT. | | 26 16 28 |
| | 0 | (11 16 8 | 11 22 49 | | Ост. | 25 0 12 24 12 56 | 25 2 50 |
| (i | | | | | UU1 | 24 12 26 | |
| | Nov | (26 10 30 | 26 2 9 | 1 | | | 24 18 12 |
| | | 26 10 30 25 23 14 | | | Nov Dec | 28 1 40 22 14 24 | 22 28 50 22 10 52 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|--|--|---|--|--|---|
| A.D. 155. F. March. d. h. m. 22 10 48 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OOT NOV DEC | d. h. m. 21 | d. h. m. 20 22 19 19 10 18 7 0 6 20 28 9 19 13 1 19 3 51 17 19 12 17 10 28 16 1 5 30 1 33 14 14 43 14 3 24 12 15 19 12 2 37 | A.D. 158. B. March. d. h. m. 22 4 15 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | d. h. m. { 2 23 57 17 18 19 16 7 3 17 19 47 16 8 31 15 21 15 {14 9 59 29 4 21 13 22 43 12 11 27 11 0 11 10 12 55 9 1 39 { 8 14 23 23 8 45 | d. h. m. 2 16 17 18 6 3 16 17 10 18 2 14 16 9 55 15 17 8 14 0 55 29 12 21 13 10 21 11 22 20 10 13 17 10 6 51 9 1 56 8 21 1 23 3 0 |
| 156. E.D. 21 16 37 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | $\begin{array}{c} 10\ 11\ 57\\ \left\{ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 10 13 16 8 23 28 24 6 42 9 9 28 7 19 52 7 7 20 5 20 23 5 11 5 4 3 3 18 16 6 2 19 31 2 11 40 {1 2 51 30 16 38 30 4 52 | 159. A. 22 10 4 | JAN FEB MAR APRIL MAY | 7 8 7 5 15 51 7 4 85 5 17 19 5 6 8 { 3 18 47 { 18 13 9 8 7 81 { 1 20 15 { 81 8 59 29 21 48 29 10 27 | 7 14 32 6 5 28 7 17 25 6 2 45 5 10 16 3 16 57 18 16 38 2 23 55 1 8 16 30 18 59 29 8 43 29 1 26 27 20 20 12 18 11 |
| 157. c. 21 22 26 | JAN FED MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 28 9 80 26 22 14 28 10 58 26 28 42 26 12 26 25 1 10 24 13 54 23 2 38 21 15 22 21 4 6 19 16 50 19 5 34 | 28 15 85 27 0 58 28 9 80 26 17 58 26 8 18 24 14 24 21 8 50 22 19 89 21 18 10 21 7 17 20 0 46 19 16 31 | 160. g.F. 21 15 53 | JAN. FEB. MAR. APRIL MAY O JUNE JULY AUG. SEFT. OCT. NOV. DEC. | 24 18 24 25 2 8 23 14 52 23 3 36 6 21 58 21 16 20 21 5 4 19 17 48 18 6 32 17 19 16 | 25 15 58 24 2 5 28 10 7 6 17 18 21 17 2 20 28 57 19 7 56 17 17 50 17 6 21 15 21 40 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. () Full Ecl.) |
|--|--|--|--|---|--|--|--|
| A.D. 161. E. March. d. h. m. 21 21 41 | JAN FEB MAR | d. h. m. 14 9 29 12 22 13 14 10 57 | d. h. m. 14 10 10 13 4 47 14 21 46 | A.D. 164. B.A. March. d. h. m. 21 15 7 | JAN FEB MAR | d. h. m. 12 0 39 10 13 28 11 2 7 | d. h. m. 11 20 58 10 8 21 10 20 26 |
| | MAY . JUNE . JULY . AUG SEPT OCT O Nov | 12. 23 41 12 12 25 11. 1 9 10. 13 58 9 2 37 7 15 21 { 7 4 5 21. 22 27 5 16 49 | 13 12 10 12 23 46 11 9 4 10 16 58 9 0 31 7 8 48 6 18 29 22 3 51 5 6 5 | | APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 9 14 51 9 3 35 7 16 19 7 5 3 5 17 47 4 6 31 3 19 15 2 7 59 { 1 20 48 | 9 9 28 8 23 38 7 14 48 7 6 11 5 21 22 4 11 48 4 1 15 2 13 47 2 1 80 |
| 162. D. 22 3 30 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG . SEPT O Oct Nov Dec | 28 0 9 26 12 53 (11 7 15 26 1 37 24 14 21 | 3 11 29 2 4 33 3 22 6 2 15 1 17 1 32 2 6 21 31 19 35 30 6 48 29 16 20 28 1 18 26 10 27 11 4 30 25 20 23 24 7 26 23 19 42 | 165. g. 21 20 56 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT Nov DEC | 81 9 27 29 22 11 (18 16 88 23 10 55 29 28 89 23 12 28 28 1 7 26 18 51 26 2 35 (9 20 57 24 15 19 28 4 8 22 16 47 21 5 31 20 18 15 | 29 22 45 14 2 8 28 8 33 29 18 24 28 4 59 27 17 0 26 6 49 25 22 17 9 16 8 24 14 48 23 7 28 22 23 80 21 14 12 21 8 21 |
| 163. c. 22 9 19 | JAN. FEB. MAR. O APRIL MAY JUNE JULY AUG. SEPT. O Oct. Nov. DEC. | 22 15 50 21 4 34 22 17 18 6 11 40 21 6 2 20 18 46 19 7 30 18 20 14 17 8 58 (15 21 42 30 16 4 15 10 26 13 28 10 | 22 9 12 20 23 50 22 15 22 6 18 33 21 7 18 20 22 55 19 13 33 19 2 48 17 14 44 16 1 42 30 4 44 15 12 18 18 22 57 | 166. F. 22 2 45 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | 19 7 0 { 3 1 22 { 17 19 44 19 8 28 17 21 12 17 9 56 15 22 40 { 15 11 24 { 30 5 46 14 0 8 12 12 52 12 1 86 10 14 20 10 8 4 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|---|--|--|---|--|--|---|---|
| A.D. 167. E. March. d. h. m. 22 8 84 | JAN C FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | d. h. m. \begin{align*} 8 & 15 & 48 \\ 28 & 10 & 10 \\ 7 & 4 & 82 \\ 8 & 17 & 16 \\ 7 & 6 & 0 \\ 6 & 18 & 44 \\ 5 & 7 & 28 \\ 4 & 20 & 12 \\ 19 & 14 & 81 \\ 8 & .8 & 56 \\ 1 & 21 & 40 \\ 1 & 10 & 24 \\ 30 & 28 & 8 \\ 29 & 11 & 52 \\ 29 & 0 & 36 \end{align*} | d. h. m. 9 | A.D. 170. A. March. d. h. m. 22. 2. 0 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 5 6 58 3 19 42 5 8 26 3 21 10 { 3 9 54 18 4 16 1 22 38 { 1 11 22 31 0 6 29 12 50 28 1 34 27 14 18 {11 8 40 {26 3 2 25 15 46 | d. h. m. 5 4 18 3 23 24 5 17 11 4 8 50 3 21 49 17 19 40 2 8 12 1 16 48 31 0 34 29 8 34 27 17 38 27 4 20 11 16 13 25 16 59 25 7 36 |
| 168. p.c. 21 14 28 | JAN. FEB. MAR. APRIL MAY JUNE JULY AUG. SEPT. OCT. NOV. | 27 13 21 26 2 5 26 14 49 25 3 88 24 16 17 28 5 1 22 17 45 21 6 29 19 19 18 19 7 57 17 20 41 \$\int 2\$ 15 8 | 28 2 25 26 15 46 27 2 15 25 10 28 24 17 23 23 0 4 22 7 87 20 17 7 19 5 23 18 20 43 17 14 42 2 17 14 17 10 7 | 171. g. 22 7 49 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT. OCT. NOV. DEC. | 24 4 81 22 17 15 24 5 59 22 18 48 { 7 18 6 22 7 27 20 20 11 20 8 55 18 21 86 17 10 26 16 28 7 | 28 28 52 22 17 2 24 10 10 28 2 17 6 7 9 4 7 22 16 36 21 4 50 6 20 15 20 0 19 0 44 3 17 9 57 7 16 19 88 1 15 6 12 |
| 169. B. 21 20 12 | JAN. FEB. MAR. APRIL MAY O JUNE JULY AUG. SEPT. | 15 22, 10 14 10, 54 15 23 38 14 12 22 14 1 6 28 19 28 12 18 50 12 2 34 10 15 18 9 4 2 8 16 46 7 5 30 21 23 55 | 14 22 49 16 18 26 15 1 0 14 9 59 28 18 17 12 17 21 12 0 14 10 7 39 8 16 37 6 8 3 52 0 6 17 50 2 22 7 34 | | Jan. Feb. | . 18 18 2 . 12 2 . 12 14 4 . 27 9 1 . 11 8 3 . 10 16 1 . 8 17 4 . 7 6 2 . 5 19 1 . 5 7 5 | 0 18 6 32 4 11 20 21 8 12 11 10 0 27 18 25 2 11 2 48 6 10 18 27 0 9 9 33 4 8 23 46 23 7 12 84 22 6 0 14 40 8 22 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Fuil Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ect.) |
|----------------------------|--|--|--|----------------------------|--|--|---|
| Vernal | Month. JAN FEB MAR. O APRIL MAY . JULY . AUG OCT NOV DEC JAN FEB O MAR APRIL MAY . JULY . AUG OCT NOV DEC JAN FEB O SEPT O SEPT O SEPT APRIL MAY . JULY . AUG APRIL MAY . AUG OCT NOV DEC JAN | Moon. | Moon. | Vernal | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC JULY . APRIL MAY . JUNE . OCT NOV DEC OT NOV DEC OT NOV DEC APRIL MAY . AUG SEPT OCT NOV DEC APRIL MAY . | Moon. (C) Full Ecl.) d. h. m. {14 7 40 29 2 2 27 14 46 28 3 80 26 16 14 26 4 58 24 17 42 {9 12 4 24 6 26 22 19 10 21 7 54 20 20 38 19 9 22 18 22 6 {2 16 29 17 10 51 15 23 35 17 12 19 16 1 3 15 13 47 {14 2 31 28 20 58 13 15 15 12 3 59 10 16 43 10 5 27 8 18 11 {8 6 55 23 1 17 6 19 40 5 8 24 6 21 8 5 9 52 4 22 36 | Moon. (O Full Ecl.) d. h. m. 14 0 86 29 14 28 28 1 22 28 10 9 26 17 38 26 0 32 24 8 11 9 19 18 23 17 35 22 5 39 20 20 46 20 14 38 19 9 52 19 5 4 2 11 47 17 22 39 16 18 29 18 1 15 16 10 24 15 17 47 14 0 24 28 28 9 13 7 25 11 15 54 10 2 47 9 16 39 8 9 27 8 4 19 23 3 8 6 28 50 5 18 16 7 10 17 5 28 16 5 9 26 |
| • | MAY . JUNE . JULY . AUG SEPT OCT NOV | 8 7 26 6 20 10 6 8 54 4 21 38 3 10 22 2 23 6 1 11 50 { 1 0 34 30 13 18 | 8 1 21 6 10 22 5 21 17 4 10 45 3 2 46 2 20 39 1 15 11 1 9 1 31 1 0 | | JUNE. O JULY. AUG SEPT OCT Nov DEC. | $\begin{cases} 3 & 11 & 20 \\ 18 & 5 & 42 \\ 8 & 0 & 4 \\ 1 & 12 & 48 \\ 81 & 1 & 32 \\ 29 & 14 & 16 \\ 29 & 3 & 0 \\ 27 & 15 & 44 \\ 27 & 4 & 28 \end{cases}$ | 3 17 29 17 28 47 3 0 83 1 7 89 80 15 54 29 2 4 28 14 48 27 5 58 26 28 28 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|-----------------------------|
| A.D. 179. | | d. h. m. | d. h. m. | A.D. 182. | | d. h. m. | d. h. m. |
| р. | JAN | 25 17 12 | 25 17 54 | G. | JAN | 22 8 22 | 22 5 33 |
| March. | FEB. | 24 5 56 | 24 12 10 | March. $d. h. m.$ | FEB | 20 21 6 | 20 16 30 |
| d. h. m. 22 6 20 | MAR. | 25 18 40 | 26 4 52 | 21,23 46 | MAR | 22 9 50 | 22 3 59 |
| 22 0 20 | APRIL | 24 7 24 | 24 19 9 | 4 | APRIL | 20 22 34 | 20 16 27 |
| | MAY . | 23-20 8 | 24 6 49 | 1 | MAY . | 20 11 18 | 20 6 14 |
| | JUNE . | 22 8 52 | 22 16 18 | | JUNE . | 19 0 2 | 18 21 9 |
| | JULY. | 21 21 36 | 22 0 30 | | JULY. | 18 12 46 | 18 12 47 |
| Se to | Aug. | 20 10 20 | 20 8 28 | | Aug | 17 1 30 | 17 4 24 |
| | SEPT. | 18 23 4 | 18 17 6 | | SEPT | 15 14 14 | 15 19 25 |
| | Oct. | 18 11 48 | 18 3 4 | | Ост. | 15 2 58 | 15 9 29 |
| | | (2 6 10 | 2 11 52 | | Nov. | 13 15 42 | 13 22 29 |
| | Nov. | 17 0 32 | 16 14 46 | | DEC | 13 4 26 | 13 10 24 |
| , | 1 | 16 13 16 | 16 4 21 | | | | |
| 1 | DEC | 10 10 10 | 10 1 -1 | | T | 11 17 10 | 11 21 17 |
| 180. | JAN | 15 2 1 | 14 19 30 | 183, | JAN. | (10 5 54 | 10 7 15 |
| С.В. | FEB. | 13 14 45 | 13 12 12 | | FEB | 12 | 25 9 33 |
| 21 12 9 | MAR. | 14 3 29 | 14 5 13 | | 0 | 11 18 39 | 11 16 37 |
| 21 12 9 | 1 | (12 16 13 | 12 21 47 | 22 5 35 | MAR. | 1 | 10 1 57 |
| | APRIL | 27 10 35 | 27 9 8 | | APRIL | 1 | 9 12 3 |
| | MAY . | \ | 12 13 1 | | MAY . | 4 | 7 23 45 |
| | | 40 4 4 4 4 | 11 2 23 | | JUNE . | 8 8 51 7 21 35 | 7 13 27 |
| | JUNE . | 40 005 | 10 13 51 | | JULY . | | 1 |
| | JULY . | 0 10 0 | 8 23 55 | | Aug | 12 | 1 |
| | Aug. | | 7 9 28 | | 0 | | |
| | SEPT. | 6 20 37 | | ll . | SEPT. | | |
| | Oct. | 21 14 59 | | | Oct. | 0 0 04 | |
| 1 | Nov. | ~ 0.01 | 5 5 14 | | Nov. | | |
| | - | 4 00 5 | 1 | | DEC. | 2 13 15 | 2 22 50 |
| | DEC. | . = 22 0 | 1 20 20 | | | | |
| 181. | JAN. | 8 10 49 | 8 4 21 | 184. | JAN. | $\int 1 15$ | |
| A. | FEB. | 1 23 33 | | E.D. | 022 | (30 14 4 | |
| 21 17 58 | | 0 10 17 | 1 | | 0 | 1) | 5 14 9 18 |
| 21 1. 00 | APRII | ٠١. ٠ | | | FEB. | . \29 8 2 | 1 |
| | 0 | 16 19 2 | 3 17 2 6 | 21 11 24 | 1 | 1 | |
| , | | (1 13 4 | | 1 | APRIL | 1 | |
| | MAY | 81 2 2 | 1 | | MAY | | |
| | June | 1 `~~ ~~ ~ | | 11 | June | 07 70 | |
| | JULY | 30 0 7 | | - | July | | 7 25 7 10 9 9 16 28 |
| | Aug. | 25 40 4 | | · , | 0 | 9 13 2 | 0 20 |
| • | SEPT. | | | | Aug. | 1 . | |
| | 0 | (10 28 4 | | | SEPT. | | |
| 1 | Oct. | 12 | 9 25 20 59 | | | . 22 9 1 | |
| li. | Nov. | | | | Nov. | • [| 8 21 4 20 |
| 1 | DEC. | | I . | 3 | DEC. | . 20 10 4 | 7 20 21 28 |
| ľ | ==== | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. 188. | | d. h. m. | d. h. m. |
| 185. | JAN | 18 23 32 | 19 12 16 | G.F. | JAN | 16-14-42 | 16 12 31 |
| March. | 0 | ∫ 2 17 54 | 2 12 3 | March. d , h , m . | FEB | 15 3 26 | 15 6 53 |
| d h . m . | FEB | 17 12 16 | 18 0 20 | 21 10 39 | MAR. | 15 16 10 | 16 0 21 |
| 21 17 13 | MAR | 19 1 0 | 19 9 59 | | APRIL | 14 4 54 | 14 15 49 |
| | APRIL | 17 13 44 | 17 17 49 | | MAY. | (13 17 38 | 14 4 46 |
| | MAY. | 17 2 28 | 17 0 47 | | 0 | 28 12 0 | 28 2 43 |
| | June . | 15, 15, 12 | 15 7 52 | | JUNE . | 12 6 22 | 12 15 20 |
| | JULY. | ſ15 . 3 56 | 14 16 15 | | JULY. | 11 19 6 | 12 0 12 |
| | 0 | \(29 22 18 \) | 30 4 46 | | Aug. | 10 7 50 | 10 8 21 |
| | Aug | 13 16 40 | 13 2 57 | | SEPT. | 8 20 31 | 8 16 46 |
| * | SEPT | 125 24 | 11 16 36 | | Ост. | 8 9 18 | 8 2 10 |
| | Oct | 11 18 8 | 11 9 14 | | Nov. | 6 22 2 | 6 13 4 |
| | Nov. | 10 6 52 | 10 4 3 | | 0 | 21 16 24 | 22 0 30 |
| | DEC | 9 19 36 | 9 23 36 | , | DEC. | 6 10 46 | 6 1 39 |
| | | | | | DEC | 0 10 40 | 0 1 59 |
| 186. | JAN., | 8 8 21 | 8 18 12 | 100 | _ | | |
| В. | FEB. , | 6 21 5 | 7 10 25 | 189. | JAN | 4 23 30 | 4 15 58 |
| 21 23 2 | MAR | 8 9 49 | 8 23 38 | E. | FEB | 3 12 14 | 3 7 42 |
| | APRIL | 6 22 33 | 7 9 56 | 21 16 28 | MAR. | 5 0 59 | 5 0 20 |
| | MAY . | 6 11 17 | 6 18 0 | | APRIL | 3 13 43 | 3 17 2 |
| | JUNE . | 5 0 1 | 5 0 50 | | MAY. | ∫ 3 2 27 | 3 8 56 |
| | JULY, | 4 12 45 | 4 7 32 | | _ 0 | (17 20 49 | 17 16 30 |
| 1 | AUG. | 3 1 29 | 2 15 13 | | JUNE. | 1 15 11 | 1 23 17 |
| | SEPT. | 1 14 13 | 1 0 55 | | July . | ∫ 1 3 55 | 1 11 48 |
| | | ſ 1 2 57 | 30 13 20 | | | (30 16 39 | 30 22 43 |
| | Oct | 80 15 41 | 30 4 45 | | Aug | 29 5 23 | 29 8 39 |
| 1 | Nov | 29 4 25 | 28 22 44 | | SEPT | 27 18 7 | 27 18 21 |
| | 0 | (13 22 47 | 14 2 12 | | Oct | 27 6 51 | 27 4 25 |
| | DEC | 28 17 9 | 28 18 4 | | Nov | 25 19 35 | 25 15 8 |
| 1: | | (| 20 10 1 | | DEC | 25 8 19 | 25 2 38 |
| 187. | JAN | 27 5 53 | 27 13 6 | 1 | | | |
| A. | FEB | 25 18 37 | 26 6 21 | 190. | JAN | 23 21 3 | 28 14 57 |
| 22 4 51 | MAR | 27 7 21 | 27 20 50 | D. | FEB | 22 9 47 | 22 4 10 |
| | APRIL | 25 20 5 | 26 8 18 | 21 22 17 | MAR | 23 22 31 | 23 18 22 |
| | MAY . | 25 8 49 | 25 17 18 | | 0 | 7 16 53 | 8 2 10 |
| | 0 | 9 3 11 | 8 19 53 | | APRIL | 122 11 15 | 22 9 26 |
| | JUNE . | 23 21 33 | 24 0 45 | | MAY, | 21 23 59 | 22 0 54 |
| | JULY . | 23 10 17 | 23 7 50 | | JUNE, | 20 12 43 | 20 16 9 |
| | Aug | 21 23 1 | 21 15 32 | | JULY. | 20 1 27 | 20 6 86 |
| 1 | SEPT | 20.11 45 | 20 0 48 | | Aug | 18 14 11 | 18 19 55 |
| | Oct. , | 20 0 29 | 19 12 16 | | SEPT | 17 2 55 | 17 8 12 |
| | Nov | 18 13 13 | 18 2 13 | | Oct. | 16 15 39 | 16 19 44 |
| | 0 . | f 3 7 35 | 3 16 17 | | Nov | 15 4 28 | 15 6 54 |
| | DEC. , | 18 1 57 | 17 18 34 | | DEC | 14 17 7 | 14 17 47 |
| , | | | | | | | |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. () Full Ecl.) | True New Moon. |
|--------------------------|--------|-------------------|----------------|----------------|--------|---|----------------|
| Equinox. | | () Full Ecl.) | ———— | Equinox. | | | |
| A.D. 191. | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| C. | JAN | 13 5 52 | 13 4 31 | 194. | Jan | ∫ 9 21 2 | 10 9 22 |
| March. d , h , m . | FEB | 11 18 36 | 11 15 10 | r. March. | 0 | 15 24 | 24 8 51 |
| 22 4 6 | MAR | ∫13 7 20 | 13 2 3 | d. $h.$ $m.$ | FEB | 8 9 46 | 8 22 46 |
| | 0 | 128 1 42 | 28 15 21 | 21 21 32 | MAR | 9 22 30 | 10 9 28 |
| | APRIL | 11 20 4 | 11 13 40 | | APRIL | 8 11 14 | 8 17 58 |
| | MAY . | 11 8 48 | 11 2 32 | | May . | 7 23 58 | 8 1 7 |
| | June . | 9 21 32 | 9 16 48 | | June . | 6 12 42 | 6 7 55 |
| | JULY. | 9 10 16 | 9 8 11 | | JULY. | f 6 1 26 | 5 15 31 |
| | Aug | 7 23 0 | 8 0 4 | | 0 | 20 19 48 | 21 2 18 |
| | SEPT | 6 11 44 | 6 15 43 | | Aug | 4 14 10 | 4 0 58 |
| | 0 | 21 6 6 | 20 17 24 | | SEPT | 3 2 54 | 2 13 8 |
| | Oct | 6 0 28 | 6 6 36 | | Ocr | 2 15 38 | § 2 4 25 |
| | Nov | 4 13 12 | 4 20 23 | | Nor | ∫ 1 4 22 | (31 22 23 |
| | DEC | 4 1 56 | 4 8 59 | | Nov. | 80 17 6 | 30 17 50 |
| | | | | | DEC | 30 5 50 | 30 13 7 |
| 192. | JAN | 2 14 41 | 2 20 26 | | 0 | (14 0 18 | 13 20 31 |
| B.A. | FEB | 1 3 25 | 1 6 42 | 195. | JAN | 28 18 35 | 29 6 39 |
| | | , 1 16 9 | 1 16 6 | E. | FEB | 27 7 19 | 27 21 20 |
| 21 9 55 | MAR.O | 16 10 81 | 16 21 23 | 22 3 21 | MAR | 28 20 3 | 29 8 57 |
| | | 31 4 53 | 31 1 6 | | APRIL | 27 8 47 | 27 17 57 |
| | APRIL | 29 17 37 | 29 10 29 | | MAY . | 26 21 31 | 27 1 13 |
| | MAY . | 29 6 21 | 28 21 7 | 1 | June . | 25 10 15 | 25 7 52 |
| | JUNE. | 27 19 5 | 27 9 41 | | 0 | (10 4 87 | 10 5 44 |
| | JULY . | 27 7 49 | 27 0 24 | | JULY | 124 22 59 | 24 15 1 |
| | Aug | 25 20 33 | 25 16 54 | 1 | Aug. | 00 44 40 | 22 23 40 |
| | | (9 14 55 | 9 8 18 | | SEPT. | 1 | 21 10 45 |
| | SEPT | 124 9 17 | 24 10 18 | | Oct. | . 21 13 11 | 21 0 44 |
| | OCT | 23 22 1 | 24 3 35 | | Nov. | . 20 1 55 | 19 17 34 |
| | Nov | 22 10 45 | 22 19 42 | | DEC. | . 19 14 39 | 19 12 20 |
| | DEC. | 01 00 00 | 22 10 2 | | | 6001 | 3 12 8 |
| | | | | | _ 0 | $\begin{cases} 3 & 9 & 1 \\ 10 & 9 & 9 \end{cases}$ | |
| 193. | JAN | 20 12 13 | 20 22 17 | 196. | JAN. | . 18 3 28 | |
| 4. | | | | 1 | FEB. | . 16 16 7 | |
| 21 15 44 | FEB. | | | 21 9 10 | | | |
| 4T TO 48 | MAR | | | | APRII | 1 | 1 |
| | MAY . | | | 11 . | MAY | | l . |
| | JUNE . | | | 11 | JUNE | 13 | |
| | JULY . | | | 11 . | T | 128 13 2 | |
| | Aug. | 1 | | . [] | JULY | | |
| | SEPT. | | | i i | Aug. | 40 04 | 1 |
| | OCT. | 10' 0 40 | 1 | W . | SEPT. | | |
| | Nov. | | | 11 | Oct. | 9 21 59 | |
| | DEC. | | | 11 | Nov. | 1 | |
| | DEC. | . 11 3 1 | 1 11 11 11 | | DEC, | 7 23.2 | 7 14 1 |

| | | | | | | | |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|---------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 197. | | d, h. m. | d. h. m. | A.D. 200. | | d. h. m. | d. h. m. |
| в. | JAN | . 6 12 12 | 6 7 25 | F.E. | JAN | 4 3 22 | 4 3 38 |
| March. | FEB | 5 0 56 | 5 1 31 | March. | FEB | 2 16 6 | $2\ 14\ 7$ |
| d. h. m. 21 14 59 | | 6 13 40 | 6 19 24 | d. h. m. 21 8 25 | MAR. | 3 4 50 | 3 0 33 |
| 21 14 59 | MAR. | | 5 11 51 | 21 0 20 | APRIL | 1 17 34 | (1 11 27 |
| | APRIL | | 5 2 3 | | ATLK! L | (1 6 18 | 30 23 24 |
| | MAY. | 4 15 8 | | | MAY . | 30 19 2 | 30 12 48 |
| | JUNE. | 3 3 52 | 3 13 49 | | T | 2) 7 46 | 29 3 39 |
| | JULY. | 2 16 36 | 2 23 33 | | June. | | |
| | Aug | 1 5 20 | 1 8 8 | | July. | 28 20 30 | 28 19 28 |
| | | (3) 18 4 | 30 16 33 | | Aug | 27 9 14 | 27 11 83 |
| | SEPT | 29 6 48 | 29 1 32 | | SEPT | 25 21 58 | 26 3 10 |
| | Oct | 28 19 32 | 28 11 47 | | Oct | 25 10 42 | 25 17 49 |
| | 0 | ∫12 13 54 | 12 19 59 | | Nov | 23 23 26 | 24 7 14 |
| | Nov | 27 8 16 | 26 23 31 | | DEC | 23 12 10 | 28 19 18 |
| | DEC | 26 21 0 | 26 12 53 | | | | |
| | | | Ì | 201. | JAN | 22 0 54 | 22 6 8 |
| 198. | JAN | 25 9 44 | 25 3 43 | D. | FEB | 20 13 38 | 20 15 40 |
| A. | FEB | 23 22 28 | 23 19 41 | | 0 | 7 8 0 | 7 16 50 |
| 21 20 48 | MAR | 25 11 12 | 25 12 11 | 21 14 14 | MAR | 22 2 22 | 22 0 88 |
| | APRIL | 23 23 56 | 24 4 26 | | APRIL | 20 15 6 | 20 9 28 |
| 1 1 | 0 | (8 18 18 | 8 16 38 | | MAY . | 20 8 50 | 19 19 5 |
| | MAY . | 23 12 40 | 23 19 37 | | JUNE . | 18 16 31 | 18 6 80 |
| | JUNE . | 22 1 24 | 22 9 9 | | JULY. | 18 5 18 | 17 20 8 |
| | JULY . | 21 14 8 | 21 21 1 | | Aug | (16 18 2 | 16 11 54 |
| | AUG | 20 2 52 | 20 7 36 | | 0 | 31 12 24 | 31 8 18 |
| | SEPT | 18 15 36 | 18 17 35 | | SEPT. | 15 6 46 | 15 5 11 |
| | Ост. | 18 4 20 | 18 3 33 | | Oct | 14 19 30 | 14 22 55 |
| 1 | 0 | (1 22 42 | 1 19 58 | | Nov. | 13 8 14 | 18 15 57 |
| | Nov. | 16 17 4 | 16 14 7 | | | 12 20 58 | 18 7 24 |
| | DEC. | 16 5 48 | 16 1 13 | | DEC | 12 20 30 | 10 1 24 |
| | 1 220 | 10 0 10 | 10 1 15 | 202. | JAN | 11 9 48 | 11 20 45 |
| 199. | JAN | 14 18 33 | 14 12 59 | 202. c. | 753 | (9 22 27 | 10 7 52 |
| G. | FEB. | 13 7 17 | 13 1 28 | | FEB. | 21 16 49 | 24 16 42 |
| 22 2 37 | Mar. | 14 20 1 | 14 14 53 | 01 00 0 | MAR. | 11 11 11 | 11 17 6 |
| | APRIL | (13 8 45 | 13 5 16 | 21 20 3 | | | |
| | 0 | 28 3 7 | 28 9 50 | | APRIL | 9 23 55 | 10 1 1 |
| | MAY . | 12 21 29 | 12 20 25 | | MAY . | 9 12 39 | 9 8 27 |
| | JUNE . | 11 10 13 | 11 11 49 | | JUNE . | 8 1 23 | 7 16 27 |
| | JULY . | 1 | 1 | | JULY. | 7 14 7 | 7 2 5 |
| | AUG. | 9 11 41 | 11 2 51 | | Aug | 6 2 51 | 5 14 14 |
| | SEPT. | | 9 16 59 | | 0 | 20 21 18 | 21 0 12 |
| | | | 8 6 3 | | SEPT. | 4 15 35 | 4 5 18 |
| | OCT. | 11 | | | Oct. , | 4 4 19 | 8 22 42 |
| | 1 | | | | Nov | 2 17 3 | 2 17 38 |
| | Nov. | | | | DEC | § 2 5 47 | 2 12 29 |
| | DEC | 5. 14 37 | 5 16 52 | | | 81 18 31 | ••• |
| | ' | 1. | .1 | 11 | 1 | | 1 |

| Mean Vernal Equinos. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|---|---|---|---|--|--|---|---|
| A.D. 203. B. March. d. h. m. 22 1 52 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEFT OCT NOV DEC | d. h. m. { | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | A.D. 206. E. March. d. h. m. 21 19 18 | JAN FEB MAR APRIL MAY O JUNE . JULY . AUG SEPT OCT NOV O DEC | d. h. m. 26 22 26 25 11 10 26 23 54 25 12 33 25 1 22 { 8 19 44 { 28 14 6 23 2 50 21 15 34 20 4 18 19 17 2 18 5 46 { 3 0 8 { 17 18 30 | d. h. m. 26 20 18 25 14 13 27 7 20 25 22 40 25 11 40 8 9 46 28 22 27 23 7 40 21 16 15 20 1 5 19 10 49 17 21 51 3 8 47 17 10 21 |
| 204. A.G. 21 7 41 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 19 16 5 18 4 49 18 17 82 17 6 16 16 19 0 15 7 44 14 20 28 13 9 12 11 21 56 11 10 40 9 28 24 { 9 12 8 24 6 80 | 20 2 9 18 18 17 19 7 20 17 17 29 17 1 26 15 8 15 14 15 5 12 22 57 11 8 51 10 21 25 9 12 54 9 6 47 24 11 8 | 207. D. 22 1 7 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV DEC | 16 7 14 14 19 58 16 8 42 14 21 26 (14 10 10 (29 4 32 12 22 54 12 11 38 11 0 22 9 18 6 9 1 50 7 14 34 7 8 18 | 16 0 16 14 15 27 16 7 80 14 28 46 14 15 28 8 28 53 13 5 55 12 18 46 11 6 10 9 16 89 9 2 52 7 13 15 7 0 4 |
| 205. F. 21 18 30 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV O DEC | 8 0 53 6 18 37 8 2 21 6 15 5 6 3 49 { 4 16 33 {19 10 55 4 5 17 2 18 1 { 1 6 45 { 30 19 29 30 8 13 28 20 57 { 18 15 19 { 28 9 41 | 8 1 56 6 20 44 8 13 46 7 4 4 6 15 30 5 0 34 19 2 30 4 8 13 { 2 15 44 81 23 86 30 9 9 29 20 45 28 10 43 14 1 1 28 2 46 | 208. c.b. 21 6 56 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 5 16 3 4 4 47 4 17 31 { 3 6 15 18 0 37 2 18 59 { 1 7 48 30 20 27 30 9 11 28 21 55 27 10 39 26 23 23 25 12 7 25 0 51 | 5 11 24 8 28 17 4 11 54 3 1 29 18 9 49 2 16 6 1 7 21 30 22 42 30 13 30 29 3 24 27 16 17 27 4 21 25 15 49 25 2 46 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 209. | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| March. | JAN | 23 13 35 | 23 13 14 | 212. | JAN | 21 4 46 | 21 17 38 |
| d. h. m. | FEB | 22 2 19 | 21 23 25 | E.D. March. | 0 | ∫ 4 23 8 | 4 17 1 |
| 21 12 45 | MAR | 23 15 3 | 23 9 44 | d. h. m. | FEB | 19 17 30 | 20 6 56 |
| | 0 | ∫ 7 9 25 | 7 22 45 | 21 6 11 | MAR | 20 6 13 | 20 17 23 |
| | APRIL | 22 3 47 | 21 20 48 | | APRIL | 18 18 57 | 19 1 38 |
| 1 | MAY . | 21 16 31 | 21 9 15 | | MAY . | 18 7 41 | 18 8 36 |
| | JUNE. | 20 5 15 | 19 23 18 | | June . | 16 20 25 | 16 15 19 |
| | JULY. | 19 17 59 | 19 14 46 | | JULY. | §16 9 9 | 15 22 55 |
| | Aug | 18 6 43 | 18 7 0 | | 0 | 31 3 31 | 31 9 21 |
| | SEPT | 16 19 27 | 16 23 13 | | Aug | 14 21 53 | 14 8 28 |
| | 0 | 1 13 49 | 1 1 37 | | SEPT | 13 10 37 | 12 20 48 |
| | Oct | (16 8 11 | 16 14 42 | | Ocr | 12 23 21 | 12 12 13 |
| | Nov. | 14 20 55 | 15 4 58 | | Nov | 11 12 5 | 11 6 17 |
| | DEC | 14 9 39 | 14 17 49 | | DEC | 11 0 49 | 11 1 48 |
| 210. | JAN | 12 22 24 | 13 5 14 | 213. | Jan | (9 13 34 | 9 21 4 |
| G. | FEB. | 11 11 8 | 11 15 14 | С. | 0 | 24 7 56 | 21 5 8 |
| 21 18 34 | MAR. | (12 23 52 | 13 0 12 | | FEB | 8 2 18 | 8 14 28 |
| | 0 | 27 18 14 | 28 4 28 | 21 12 0 | MAR | 9 15 2 | 10 5 1 |
| | APRIL | 11 12 36 | 11 8 44 | | APRIL | 8 3 46 | 8 16 29 |
| Ì | MAY . | 11 1 20 | 10 17 41 | | MAY . | 7 16 30 | 8 1 22 |
| | JUNE. | 9 14 4 | 9 4 0 | | JUNE. | 6 5 14 | 6 8 88 |
| | JULY. | 9 2 48 | 8 16 24 | | July. | 5 5 17 58 | 5 15 28 |
| | Aug | 7 15 32 | 7 7 13 | | 0 | 20 12 20 | 20 12 21 |
| | SEPT | 6 4 16 | 6 0 0 | | Aug | 4 6 42 | 3 22 41 |
| | 0 | 20 22 38 | 20 16 37 | | SEPT | 2 19 26 | 2 7 85 |
| ļ | Oct | 5 17 0 | 5 17 51 | | Ocr | § 2 8 10 | 1 18 51 |
| ŀ | Nov | 4 5 44 | 4 11 38 | | | (81 20 54 | 81 8 57 |
| į . | DEC | 3 18 28 | 4 4 8 | | Nov | 80 9 88 | 80 1 41 |
| | | | | | DEC | 29 22 22 | 29 20 17 |
| 211. | JAN | $\int 2 7 13$ | 2 18 39 | 214. | 0 | (18 16 44 | 18 20 58 |
| F. | | 31 19 57 | | в. | JAN | 28 11 6 | 28 15 17 |
| | FEB | | 1 6 49 | | FEB | 26 28 50 | 27 9 18 |
| 22 0 23 | MAR. | 2 8 41 | 2 16 49 | 21 17 49 | MAR. | 28 12 35 | 29 0 58 |
| | | (31 21 25 | $\int_{0}^{1} 1 7$ | | APRIL | 27 1 19 | 27 18 42 |
| | APRIL | 30 10 9 | 130 8 30 | | MAY . | 26 14 8 | 26 28 58 |
| | MAY . | 29 22 53 | 29 15 58 | | June. | 25 2 47 | 25 8 12 |
| | JUNE. | 28 11 37 | 28 0 35 | | 0 | 5 9 21 9 | 9 12 58 |
| | JULY. | 28 0 21 | 27 11 22 | | JULY. | 24 15 81 | 24 15 41 |
| | Aug | 26 13 5 | 26 0 59 | | Aug | 23 4 15 | 22 28 26 |
| | SEPT | 25 1 49 24 14 33 | 24 17 26 | | SEPT | 21 16 59 | 21 8 19 |
| | Nov. | 23 3 17 | 24 11 58 23 7 10 | | Ocr | 21 5 48 | 20 18 56 |
| | DEC. | 22 16 1 | 23 1 30 | | Nov | 19 18 27 | 19 7 44 |
| | | 10 1 | 20 I 50 | | DEC | 19 7 11 | 18 22 41 |
| | · | | | i | | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|---|--|---|---|--|--|
| A.D. 215. A. March. d. h. m. 21 23 38 | Jan Feb Mar April May . | d. h. m. 17 19 55 16 8 39 17 21 23 16 10 7 15 22 51 | d. h. m. 17 15 23 16 9 0 18 2 27 16 18 39 16 8 50 | A.D. 218. D. March. d. h. m. 21 17 4 | JAN FEB MAR APRIL MAY . | d. h. m. 14 11 5 12 23 49 14 12 33 18 1 17 12 14 1 | d. h. m. 14 12 27 12 22 33 14 8 28 12 18 48 12 6 16 |
| | JUNE . JULY . AUG SEPT OCT Nov DEC | 14 11 35 14 0 19 12 13 3 11 1 47 10 14 31 9 3 15 8 15 59 | 14 20 46 14 6 50 12 15 51 11 0 41 10 10 5 8 20 34 8 8 19 | | JUNE . JULY . AUG SEPT OCT Nov DEC | 11 2 45 10 15 29 9 4 13 7 16 57 7 5 41 5 18 25 5 7 9 | 10 19 22 10 10 10 9 2 15 7 18 48 7 11 2 6 2 13 5 15 58 |
| 216. G.F. 21 5 27 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT O CT O NOV DEC | 7 4 44 5 17 28 6 6 12 4 18 56 4 7 40 19 2 2 2 20 24 { 2 9 8 81 21 52 30 10 36 28 28 20 28 12 4 { 12 6 26 27 0 48 26 13 32 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 219. c. 21 22 53 | JAN FEB MAR AFRIL MAY JUNE JULY AUG OCT NOV DEC | 26 3 14 | 4 4 8 2 14 42 3 23 57 2 8 22 1 16 47 31 2 8 29 13 20 29 2 57 27 18 55 11 16 14 26 12 36 26 6 48 25 0 15 24 15 56 |
| 217. E. 21 11 16 | JAN. FEB. MAR. APRIL O MAY JUNE JULY AUG. SEPT. OCT. O Nov. DEC. | 28 16 29 { 8 10 51 28 5 18 21 17 57 21 6 41 19 19 25 | 28 2 54 21 18 16 21 9 84 20 0 12 18 18 54 18 2 38 1 4 31 7 16 14 34 | 220. B.A. 21 4 42 | APRIL MAY JUNE JULY AUG. O SEPT. | 20 7 39 19 20 23 18 9 7 17 21 51 (16 10 35 (31 4 57 | 22 1 7 20 8 42 19 15 52 17 28 41 17 9 15 15 21 27 7 31 8 8 14 12 37 8 14 6 21 13 1 32 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full Rel.) | Mesn Vernal Equinox | Month | Mean New Moon Will Rel | Mrs As |
|----------------------------|---------------------------------------|------------------------------------|------------------------------------|---------------------------|--|------------------------------|-----------|
| A.D. | Highton medican medican services must | d. h. m. | d. h. m. | A.D. 224. | And the state of t | d h. m | .1 1, ., |
| 221. | JAN | 11 2 15 | 11 18 59 | 11.1. | JAN | H 17 W | 9 10 57 |
| Q. | FEB | f 9 14 50 | 10 4 41 | March. | Fan. | 7 6 9 | 7 14 time |
| March. | 0 | 21 0 21 | 24 8 47 | 21 8 57 | MAR | 7 18 tes | 7 21 25 |
| 21 10 81 | MAR. | 11 8 48 | 11 16 25 | | Armi | 6 7 117 | 6 11 12 |
| | Arrit | 9 16 27 | 10 1 85 | | Max | 5 20 21 | W 5 24 |
| | MAY . | 9 5 11 | 9 8 69 | | Juan . | 4 4 9 5 | 4 18 21 |
| | JUNE . | 7 17 55 | 7 15 89 | | | day # 27 | 18 16 53 |
| | JULY. | 7 6 89 | 6 22 40 | | July . | 8 21 49 | 4 5 81 |
| | Ava | 5 19 28 | 5 7 10 | | | 1 2 10 181 | 2 15 12 |
| | 0 | 20 18 45 | 20 19 28 | | Ata | lai 28 17 | . 1 0 15 |
| | SEPT | 4 8 7 | 8 18 5 | | Harr. | 100 121 1 | 18 1 181 |
| | Ocr | - 8 20 51 | 884 | | Ocr | 30 0 45 | 29 19 85 |
| | Nov | 2 9 85 | 2 0 57 | | Nov | 29 18 20 | 28 4 43 |
| | DEC | f 1 22 19 | 1 19 57 | | ., | (18 7 51 | 18 17 2 |
| | 25 11.11 | 81 11 8 | 81 15 80 | | DEC. | 124 2 1a | 27 19 1 |
| 222. | ~ | 00 00 00 | 90 0 84 | | | | |
| 7. | JAN | 29 28 48 | 80 9 58 | | | | |
| | FEB | 28 12 92 | *** | 225. | JAN | 2ni 14 ten | IN H BY |
| 21 16 20 | MAR | 1 | 1 1 56 | 14. | Fan. | 25 3 42 | 21 23 6 |
| | | (80 1 16 | 80 14 52 | 21 9 46 | Man. | 20 10 20 | Jn 14 71 |
| | APRIL | 28 14 0 | 29 0 54 | | Armin | 25 5 10 | 建5 电源 |
| | MAY. | 28 2 44 | 28 8 50 | | MAY . | 24 17 64 | 34 21 50 |
| | Јики. | 26 15 28 | 26 15 45 | | f 3 | 1 H 12 10 | 44 7 \$44 |
| | July. | 26 4 12 | 25 22 44 | | Jone . | tyn a ne | 20 12 10 |
| 1 | Aug | 24 16 56 | 24 6 50 | | Jun. | 27 10 37 | 23 1 44 |
| | SEPT | 28 5 40 | 22 16 57 | | Avu | 21 8 6 | 21 18 45 |
| 1 | Oct | 22 18 24 | 22 5 41 | | Herr. | 19 ga to | 20 () 419 |
| | Nov | 21 7 8 | 20 21 9 | | Ocr | 10 0 84 | 19 11 20 |
| | DEC. | 20 19 52 | 20 14 52 | | Nov | 17 22 18 | 17 22 11 |
| | 0 | 5 4 14 14 | 4 20 1 | | Dax:, , | 17 11 2 | 17 9 2 |
| 223. | JAN | 119 8 88 | 19 9 41 | | | | |
| x. | Fun | 17 21 20 | 18 4 11 | 226. | JAH | 15 23 46 | 15 20 5 |
| 21 22 9 | MAR | 19 10 4 | 19 20 59 | A | Fun. | | |
| | APRIL. | 17 22 48 | 18 11 10 | 21 15 83 | Man. | 16 1 14 | 14 7 90 |
| | MAY . | 17 11 82 | 17 22 87 | 24 10 00 | | | 15 19 11 |
| | JUNN. | £18 0 16 | 16 7 49 | | Arnie | 14 18 54 | 14 4 21 |
| | 0 | 188 18 84 | 80 9 10 | | MAY. | 14 2 43 | 18 37 10 |
| | JULY. | 15 18 0 | 15 15 48 | | Juna . | 12 15 26 | 12 18 45 |
| - | Avo | | 18 28 28 | | July . | 12 4 10 | 13 5 15 |
| | Sept | 12 14 28 | 12 7 47 | | Aug | 10 16 54 | 10 20 20 |
| | Oct | 12 8 12 | 11 17 88 | | Sart. | 9 5 194 | 9 10 10 |
| 1 | Nov | 10 15 56 | 10 5 22 | | Oct | 8 18 W | - |
| | DEC | \$10 4 40 | 9 19 12 | | Nov. | 7 7 6 | |
| 1 | 0 | 24 28 2 | 25 9 41 | | Dec | 6 19 50 | 7 0 44 |

34

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--|--|---|---|--|---|--|---|
| A.D. 227. G. March. d. h. n. 21 21 24 | Jan Feb Mar April O | d. h. m. 5 8 85 8 21 19 5 10 3 { 3 22 47 { 18 17 9 3 11 31 | d. h. m. 5 11 40 8 21 51 5 7 83 8 17 19 19 6 1 8 3 58 | A.D. 230. c. March. d. h. m. 21 14 50 | Jan Feb O Mar | d. h. m. { 1 23 45 | d. h. m. 2 9 38 1 1 45 15 1 4 2 14 58 (1 1 7 |
| | JUNE . JULY . AUG SEPT O OCT NOV DEC | $\begin{array}{c} 2 & 0 & 15 \\ 2 & 0 & 15 \\ 1 & 18 & 0 \\ 81 & 1 & 44 \\ 29 & 14 & 28 \\ 28 & 3 & 12 \\ 12 & 21 & 34 \\ 27 & 15 & 56 \\ 26 & 4 & 40 \\ 25 & 17 & 24 \\ \end{array}$ | 1 15 57 1 5 53 30 21 28 29 14 5 28 6 51 12 10 2 27 22 54 26 13 37 26 2 39 | | MAY . JUNE . JULY . O AUG SEPT OCT Nov DEC | 29 15 25 28 4 9 27 16 58 {11 11 15 26 5 87 24 18 21 24 7 5 22 19 49 22 8 33 | \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ |
| 228. F.E. 21 3 18 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov DEC | 24 6 8 22 18 52 23 7 36 | 24 13 57 22 28 38 23 8 11 7 11 25 21 16 17 21 0 52 19 10 55 18 23 16 17 14 11 16 7 16 1 1 4 16 1 38 14 19 45 14 12 35 | 231. B. 21 20 39 | Jan O FEE MAR APRIL MAY . JUNE . JULY . O AUG SEPT OOT Nov DEC | 20 21 18 | 15 6 30 13 15 39 13 3 7 11 17 16 11 9 54 |
| 229. D. 21 9 2 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 12 14 56 11 3 40 12 16 24 11 5 8 10 17 52 9 6 36 8 19 20 7 8 4 5 20 48 5 9 32 3 22 16 3 11 0 | 18 8 8 11 15 12 18 0 54 11 8 54 10 16 0 8 28 16 8 7 47 6 18 86 5 8 21 5 1 0 3 19 46 3 15 11 | 232. A.G. 21 2 28 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT Oct Nov DEC | $\begin{cases} 10 & 6 & 6 \\ 25 & 0 & 27 \\ 8 & 18 & 50 \\ 9 & 7 & 84 \\ 7 & 20 & 18 \\ 7 & 9 & 2 \\ 5 & 21 & 46 \\ \begin{cases} 5 & 10 & 80 \\ 20 & 4 & 52 \\ 8 & 28 & 14 \\ 2 & 11 & 58 \\ \begin{cases} 2 & 0 & 42 \\ 81 & 13 & 26 \\ 80 & 2 & 10 \\ 29 & 14 & 54 \end{cases}$ | 25 5 36 8 22 51 9 16 29 8 7 58 7 20 48 6 7 1 5 15 38 19 19 41 8 28 28 2 7 80 1 16 48 81 8 85 29 16 21 |

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| | Aug | 29 6 59 | 28 21 15 | | SEPT | 24 10 53 | 23 23 53 |
| | SEPT | 27 19 43 | 27 14 39 | | Oct | 28 28 37 | 23 11 82 |
| | 0 | 12 14 5 | 12 9 40 | | Nov. | 22 12 21 | 22 1 40 |
| i i | Oct Nov | | 27 9 20 | | DEC | 22 1 5 | 21 18 4 |
| | DEC. | 25 21 11 | 26 3 53 | | 2201 | | 21 10 1 |
| | DEC. | 25 9 55 | 25 20 56 | 250. F. | Jan | 20 18 50 | 20 12 1 |
| 247. | JAN | 23 22 40 | 04 11 99 | 7. | 0 | § 4 8 12 | 4 14 14 |
| Q. | FEB. | 22 11 24 | 24 11 33 22 23 26 | | FEB | (19 2 84 | 19 6 17 |
| 21 17 40 | MAR. | | | 21 11 7 | MAR | 20 15 18 | 20 23 85 |
| | APRIL | 24 0 8 22 12 52 | 24 8 52 | | APRIL | 19 4 2 | 19 14 58 |
| 1 | MAY . | 22 12 52 | 22 16 35 21 23 29 | | MAY. | 18 16 46 | 19 8 41 |
| | JUNE . | 20 14 20 | | | JUNE. | 17 5 80 | 17 14 9 |
| | JULY. | | | | JULY. | ∫16 18 14 | 16 23 0 |
| | AUG | 20 3 4 18 15 48 | 19 15 6 | | 0 | 31 12 86 | 81 2 81 |
| | SEPT. | 18 15 48 | 18 1 59 | | Aug | 15 6 58 | 15 7 18 |
| | OCT. | 16 17 16 | 16 15 52 | | SEPT | 18 19 42 | 18 15 44 |
| | Nov. | | 16 8 42 | | Oct | 18 8 26 | 18 1 18 |
| | DEC. | 15 6 0 14 18 44 | 15 8 39 | | Nov | 11 21 10 | 11 12 20 |
| | ، ،ناعر | 14 10 44 | 14 23 13 | | DEC | 11 9 54 | 11 1 1 |
| | | I. | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Tull Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------|----------------------------|---------------|--|---------------------------|
| A.D. 251. | | d. h. m. | d. h. m. | A.D. 254. | | d. h. m. | d. h. m. |
| March. | JAN | 9 22 38 | 9 15 21 | March. | JAN | 6 13 48 | 6 19 37 |
| d. h. m. | FEB | 8 11 22 | 8 7 4 | d. h. m. | FEB | 5 2 32 | 5 5 48 |
| 21 16 56 | MAR | 10 0 6 | 9 23 37 | 21 10 22 | MAR | 6 15 16 | 6 15 4 |
| | APRIL | 8 12 50 | 8 16 12 | | APRIL | 5 4 0 | 4 23 58 |
| | MAY . | 8 1 34 | 8 7 59 | | MAY . | 5 4 16 44 | 4 9 19 |
| | June . | 6 14 18 | 6 22 15 | | 0 | (19 11 6 | 19 22 2 |
| | JULY. | 6 3 2 | 6 10 42 | | June. | 3 5 28 | 2 19 59 |
| | Aug | 4 15 46 | 4 21 37 | | JULY. | 2 18 12 | 2 8 40 |
| - | SEPT | 3 4 30 | 3 7 36 | | Aug | § 1 6 56 | (31 23 33 |
| | Ocr | 2 17 14 | 2 17 25 | | izou. | (30 19 40 | 30 16 11 |
| 1 | Nov. | § 1 5 58 | 1 3 35 | | SEPT | 29 8 24 | 29 9 42 |
| | | (30 18 42 | 30 14 22 | | Ост | 28 21 8 | 29 3 1 |
| 1 | DEC | 30 7 26 | 30 1 54 | | 0 | [12 15 30 | 12 5 2 |
| 1 | 1 | | | | Nov | 27 9 52 | 27 19 7 |
| 252. | JAN | 28 20 11 | 28 14 11 | | DEC | 26 22 36 | 27 9 21 |
| D.C. | FEB | 27 8 55 | 27 3 23 | 055 | - | 05 11 01 | 07 01 00 |
| 20 22 44 | MAR | 27 21 39 | 27 17 31 | 255. G. | JAN | 25 11 21 | 25 21 28 24 7 33 |
| | APRIL | 26 10 23 | 26 8 31 | | FEB | 24 0 5 | |
| | MAY . | 25 23 7 | 25 23 58 | 21 16 11 | MAR. | 25 12 49 24 1 33 | 25 16 3 |
| | 0 | 5 9 17 29 | 9 14 58 | | APRIL MAY. | 24 1 33 23 14 17 | 23 7 25 |
| | JUNE . | 24 11 51 | 24 15 13 | | JUNE . | 22 3 1 | 21 16 15 |
| | JULY. | 24 0 35 | 24 5 40 | | JULY. | 21 15 45 | 21 3 14 |
| | Aug | 22 13 19 | 22 19 0 | | AUG. | 20 4 29 | 19 16 58 |
| | SEPT | 21 2 3 | 21 7 20 | | SEPT. | 18 17 13 | 18 9 24 |
| | Oct | 20 14 47 | 20 18 57 | | 0 | (3 11 35 | 3 9 4 |
| | Nov | 19 8 31 | 19 5 59 | | OCT. | 13 | 18 3 44 |
| | 0 | 3 21 53 | 3 19 46 | <u> </u> | Nov. | 16 18 41 | 16 22 44 |
| | DEC | 18 16 15 | 18 17 2 | | DEC. | 1 | 16 16 48 |
| 1 | _ | 17 5 0 | 17 3 43 | | _ | 44.00.40 | 15 0 45 |
| 253. B. | JAN | 17 5 0 15 17 44 | 15 14 16 | 256. F.E. | JAN. | | 15 8 45 |
| 1 | FEB | 17 6 28 | 17 1 4 | H | FEB. | | |
| 21 4 88 | | 15 19 12 | 15 12 40 | 20 22 0 | | 1). | |
| | APRIL | (15 7 56 | 15 1 32 | | 0 | 28 16 C | |
| | MAY. | 30 2 18 | 30 8 11 | | APRIL | | |
| 1 | O | 13 20 40 | 13 15 51 | | MAY | | |
| | JUNE. | | 13 7 19 | | JUNE | | 1 -7 |
| | Aug. | 44 00 0 | 11 23 16 | | Aug. | | |
| | SEPT. | 10 10 10 | 10 14 59 | | SEPT. | | |
| | OCT. | 9 23 36 | 10 5 55 | 1 | SEPT. | $\begin{cases} 21 & 20 & 24 \\ 21 & 20 & 24 \end{cases}$ | |
| | Nov. | | 1 | ' | OCT. | 6 14 46 | |
| | Nov | 23 6 42 | | | Nov. | 5 3 30 | |
| | DEC. | 8 1 4 | | | T) | 4 16 14 | |
| | DEC. | | | | 2110. | - 20 12 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|---|---|---|---|--|---|--|---|
| A.D. 257. D. March. d. h. m. 21 3 49 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OOCT NOV | d. h. m. 3 4 58 1 17 42 { 3 6 26 { 18 0 48 1 19 10 { 1 7 54 { 30 20 38 29 9 22 28 22 6 27 10 50 { 11 5 12 { 25 23 34 25 12 18 24 1 2 | d. h. m. 3 12 40 2 6 0 3 20 29 17 19 3 2 7 52 1 16 42 30 23 53 29 6 33 28 13 48 26 22 37 11 10 34 25 9 55 25 0 7 23 17 5 | A.D. 260. A.G. March. d. h. m. 20 21 15 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV | d. h. m. (15 14 30) (30 8 52) 28 21 36 29 10 20 27 23 4 27 11 48 26 0 32 (10 18 54) (25 13 16) 24 2 0 22 14 44 22 3 28 20 16 12 20 4 56 | d. h. m. 16 2 48 30 3 5 28 18 59 29 11 25 28 3 38 27 18 37 26 8 6 10 7 12 25 19 56 24 6 34 22 16 40 22 2 48 20 13 22 20 0 30 |
| 258. c. 21 9 37 | Jan Feb Mar April May . June . July . Aug Sept Oct Nov Dec | 16 19 39 15 8 23 14 21 7 13 9 51 | 28 11 55 22 7 8 21 1 10 22 16 48 21 5 29 20 15 28 18 23 33 18 6 49 16 14 20 14 23 2 14 9 38 12 22 82 12 13 48 | 261. F. 21 3 4 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV. | \$ 28 19 {18 17 41 17 6 25 18 19 9 17 7 53 16 20 87 {15 9 21 30 3 48 14 22 5 18 10 49 11 28 88 11 12 17 10 1 1 | 4 9 28 18 12 14 17 0 40 18 14 1 17 4 22 16 19 80 15 10 58 29 22 7 15 1 55 18 16 4 12 5 11 11 17 25 10 5 0 |
| 259. B. 21 15 26 | JAN O FEB MAR APRIL MAY . JUNE . JULY O AUG. SEPT. OCT. Nov. DEC. | 11 12 48 10 1 32 9 14 16 8 3 0 7 15 44 22 10 6 6 4 28 4 17 12 4 5 56 | 10 0 57 11 18 42 10 10 59 10 1 2 8 12 41 7 22 22 21 22 47 6 6 58 4 15 27 4 0 38 2 10 59 1 1 22 50 | 262. E. 21 8 53 | JAN FEB MAR APRIL MAY . JUNE . JULY AUG. SEPT. OCT. NOV. DEC. | 4 18 10 4 6 54 2 19 38 1 8 22 80 21 6 | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New 1 | True New Moon. |
|----------------------------|--------|----------------|----------------|----------------|--------|--------------|-------------------|
| 263. | | | O Lun Ed., | Equinox. | | O Full Ecl.) | Full Ecl.) |
| | | d. h. m. | d. h. m. | A.D. 266. | | d. h. m. | d. h. m. |
| D. | JAN | 27 0 2 | 27 5 11 | _ G. | JAN | 23 15 12 9 | 24 1 36 |
| d. $h.$ $m.$ | FEB | 25 12 46 | 25 14 41 | d. h. m. | FEB | | 22 17 31 |
| 21 14 42 | MAR | 27 1 30 | 26 23 27 | a. 11. 110. | 0 | (8 22 18 | 8 16 51 |
| | APRIL | 25 14 14 | 25 8 14 | 21 8 8 | MAR | 23 16 40 | 24 6 21 |
| | 0 | (10 8 36 | 10 20 11 | 1 | APRIL | 22 5 24 | 22 16 18 |
| | MAY . | 25 2 58 | 24 17 57 | | MAY . | 21 18 8 | 22 0 9 |
| | JUNE . | 23 15 42 | 28 5 27 | | JUNE . | 20 6 52 | 20 6 57 |
| | JULY . | 23 4 26 | 22 19 13 | | JULY . | 19 19 36 | 19 13 50 |
| | Aug | 21 17 10 | 21 11 9 | | Aug | 18 8 20 | 17 21 51 |
| | SEPT | 20 5 54 | 20 4 34 | | SEPT. | 16 21 4 | 16 7 56 |
| | Ocr | 19 18 38 | 19 22 22 | | Oct | 16 9 48 | 15 20 44 |
| | 0 | (3 13 0 | 3 3 12 | | Nov | 14 22 32 | 14 12 24 |
| | Nov | 18 7 22 | 18 15 25 | | DEC | 14 11 16 | 14 6 22 |
| | DEC | 17 20 6 | 18 6 47 | | T | 19 0 1 | 13 1 29 |
| | | | | 267. F. | JAN. | 13 0 1 | 11 20 10 |
| 264. | JAN | 16 8 51 | 16 20 O | F. | FEB | 12 | 26 6 23 |
| C.B. | FEB | 14 21 35 | 15 6 57 | a4 =2 == | Man | 13 1 29 | 13 13 0 |
| 20 20 80 | MAR. | 15 10 19 | 15 16 0 | 21 13 57 | MAR. | 11 14 13 | 12 3 6 |
| | APRIL | (13 23 3 | 13 23 49 | | APRIL | 11 14 15 | 11 14 21 |
| | 0 | 28 17 25 | 29 0 56 | | MAY . | 9 15 41 | 9 23 20 |
| | MAY | . 13 11 47 | 13 7 11 | | JUNE . | 9 4 25 | 9 6 58 |
| | JUNE | . 12 0 31 | 11 15 18 | | JULY . | (717 9 | 7 14 23 |
| | July | . 11 18 15 | 11 0 59 | | Aug. | 22 11 31 | 22 8 46 |
| | Aug. | . 10 1 59 | 9 13 19 | | SEPT. | 6 5 53 | 5 22 33 |
| | SEPT. | . 8 14 48 | 8 4 31 | | OCT. | 5 18 37 | 5 8 17 |
| · | Oct. | . (8 3 2 | 7 22 11 | | Nov. | | 3 20 4 |
| | 0 | 22 21 4 | 9 22 18 22 | | DEC. | 0.00 5 | |
| | Nov. | . 6 16 13 | 1 6 17 13 | | DEC. | | |
| | DEC. | . 6 4 5 | 6 12 2 | 000 | JAN. | 2 8 49 | |
| | | | | 268. E.D. | O AM. | . {31 21 38 | 31 19 44 |
| 265. | JAN. | . 4 17 3 | - 1 | | FEB. | • { | 45 00 40 |
| ۸. | FEB. | . 3 6 2 | | | 0 | 15 15 5 | |
| 21 2 1 | 9 MAR. | 4 19 | 7 5 7 30 | 1 00 10 / | 6 MAR. | 1 10 1 | 1 |
| | APRI | L 3 75 | 1 . | · | | (30 25 | |
| | MAY | . 2 20 8 | 1 | - 11 | APRII | 1 | 1 |
| | Torror | | 9 1 6 58 | 11 | MAY | 07 40 4 | 1 |
| | JUNE | (50 22 | 3 30 13 59 | 11 | JUNE | 1 | _1 |
| | July | | | 11 | Jura | | 1 |
| | Aug | 1 | | - 11 | . 0 | (10 20 1 | |
| | SEPT | | 1 | _ 11 | Aug. | 1 00 | |
| | 0 | §12 6 | | - 11 . | SEPT. | 1 | |
| | Oct. | . 27 0 | | 11 . | Oct. | | · |
| 1 | Nov. | 25 13 | 1 . | 11 | Nov. | . 22 4 5 | |
| | | | 27 25 7 1 | | DEC. | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 269. | | d. h. m. | d. h. m. | A.D. 272. | | d. h. m. | d. h. m. |
| C. | JAN | 20 6 22 | 19 23 36 | G.F. | JAN | 17 21 32 | 18 4 24 |
| March. $d. h. m.$ | FEB | 18 19 6 | 18 14 46 | March. $d. h. m.$ | FEB | 16 10 16 | 16 14 17 |
| 21 1 34 | MAR | 20 7 50 | 20 6 44 | 20 19 1 | MAR | 16 23 0 | 16 23 8 |
| | APRIL | 18 20 34 | 18 22 56 | | APRIL | 15 11 44 | 15 7 34 |
| | MAY . | 18 9 18 | 18 14 32 | | MAY . | (15 0 28 | 14 16 30 |
| | JUNE . | 16 22 2 | 17 4 54 | | 0 | 29 18 50 | 30 5 6 |
| | July. | 16 10 46 | 16 17 43 | | JUNE. | 13 13 12 | 13 2 53 |
| | Aug | 14 23 30 | 15 5 9 | | JULY. | 13 1 56 | 12 15 26 |
| | SEPT | 13 12 14 | 13 15 42 | | Aug | 11 14 40 | 11 6 24 |
| | Oct | 13 0 58 | 13 1 58 | | SEPT | 10 3 24 | 9 23 21 |
| | Nov. | 11 13 42 | 11 12 28 | | Oct. | 9 16 8 | 9 17 20 |
| | DEC | 11 2 26 | 10 23 19 | | Nov. | 6 8 4 52 | 8 11 8 |
| | ~~·· | | | | 0 | 22 23 14 | 22 13 44 |
| 070 | T . | 0 45 44 | 0.10.00 | | DEC | 7 17 36 | 8 3 36 |
| 270. B. | JAN | 9 15 11 | 9 10 39 | | DEC | . 2. 00 | |
| | FEB | 8 3 55 | 7 22 28 | 273. | JAN | 6 6 21 | 6 17 59 |
| 21 7 23 | MAR. | 9 16 39 | 9 11 2 | E. | FEB. | 4 19 5 | 5 5 58 |
| | APRIL | 8 5 23 | 8 0 36 | 21 0 50 | MAR. | 6 7 49 | 6 15 47 |
| | MAY. | 7 18 7 | 7 15 9 | 21 0 30 | APRIL | 4 20 33 | 4 23 56 |
| 1 | JUNE. | 6 6 51 | 6 6 25 | Ì | MAY . | 4 9 17 | 4 7 15 |
| | _ 0 | (21 1 13 | 20 22 26 | | JUNE . | 2 22 1 | 2 14 42 |
| | JULY. | 5 19 35 | 5 21 46 | | JOHE. | (2 10 45 | 1 23 25 |
| · | Aug | 4 8 19 | 4 12 37 | | July . | 31 23 29 | 31 10 22 |
| | SEPT | 2 21 3 | 3 2 32 | | Aug | 30 12 13 | 30 0 12 |
| 1 | Oct | 2 9 47 | 2 15 29 | | SEPT. | 29 0 57 | 28 16 52 |
| | | (31 22 31 | ∫ 1 3 36 | | 0 | (13 19 19 | 18 17 40 |
| 1 | Nov | 30 11 15 | ₹30 15 4 | | OCT | 28 13 41 | 28 11 31 |
| | _ 0 | £15 5 87 | 15 3 44 | | Nov. | 27 2 25 | 27 6 46 |
| i | DEC | (29 23 59 | 30 1 59 | | DEC. | 26 15 9 | 27 1 0 |
| | | | | | D150 | 20 20 0 | |
| 271. | JAN | 28 12 43 | 28 12 23 | 274. | JAN | 25 3 53 | 25 16 58 |
| Α. | FEB | 27 1 27 | 26 22 28 | D. | FEB | 23 16 37 | 24 6 2 |
| 21 13 12 | MAR | 28 14 11 | 28 8 42 | 21 6 39 | MAR | 25 5 21 | 25 16 18 |
| | APRIL | 27 2 55 | 26 19 45 | | 0 | 8 23 43 | 8 21 5 |
| | MAY . | 26 15 39 | 26 8 13 | | APRIL | 23 18 5 | 24 0 24 |
| | 0 | ∫10 10 1 | 10 15 33 | | MAY . | 23 6 49 | 23 7 18 |
| | JUNE . | 25 4 23 | 24 22 21 | | JUNE . | 21 19 33 | 21 14 2 |
| | July . | 24 17 7 | 24 13 54 | | JULY. | 21 8 17 | 20 21 44 |
| | Aug | 23 5 51 | 23 6 14 | | Aug. | | 19 7 27 |
| | SEPT | 21 18 35 | 21 22 32 | | SEPT. | | 17 20 1 |
| | Oct | 21 7 19 | 21 14 3 | | 0 | (347 | |
| | Nov. | 19 20 3 | 20 4 19 | | OCT. | 17 22 29 | |
| | 0 | $\int 4 14 25$ | L . | | Nov. | 16 11 13 | 16 5 53 |
| | DEC | (19 8 47 | 19 17 7 | | DEC. | | 16 1 25 |
| | | | | ₩ . | 1 | | |
| | | | | | | | |

| Mean Vernal Equinox. | Month | M an New Goon. | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | fean New T Moon. Full Ect.) | rne New Moon. Full Ecl.) |
|---|--|--|---|---|--|--|--|
| A.D. 275. c. March. d. h. m. 21 12 27 | FEB MAR | 13 1 26 1 (14 14 10 2 (29 8 32 2 13 2 54 2 12 15 38 2 11 4 22 2 10 17 6 9 5 50 7 18 34 | d. h. m. 14 20 35 18 13 48 15 4 8 29 2 32 13 15 23 13 0 7 11 7 19 10 14 5 8 21 32 7 6 36 22 18 19 6 18 5 5 8 21 5 1 15 | A.D. 278. F. March. d. h. m. 21 5 54 | O FEB MAR APRIL MAY . JUNE . JULY . | 11 3 52 1 25 22 14 2 9 16 36 11 5 20 1 9 18 4 9 6 48 7 19 32 (7 8 16 (22 2 38 5 5 21 0 4 9 44 3 22 28 2 11 12 (1 23 56 | d. h. m. 0 20 48 16 11 11 9 11 1 11 2 19 9 18 15 9 10 7 8 1 11 7 14 56 21 14 32 6 3 15 4 14 26 4 1 3 2 11 36 1 22 21 31 9 22 |
| 276. B.A. 20 18 16 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | $\begin{array}{c} 3\ 21\ 30 \\ 2\ 10\ 14 \\ \left\{ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 3 19 51 .2 14 46 3 8 32 17 15 0 1 23 58 1 12 36 30 22 39 29 6 55 28 14 29 26 22 20 25 7 21 24 18 10 28 7 6 22 22 8 | 279. E. 21 11 43 | O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT NOV DEC | \$\begin{array}{cccccccccccccccccccccccccccccccccccc | 31 9 22 15 17 24 29 20 42 28 8 85 29 21 19 28 11 8 28 1 57 26 17 21 11 5 38 26 8 39 24 28 20 23 18 5 23 1 52 21 13 50 21 1 8 |
| 277. G. 21 0 8 | JAN O FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT. OCT. Nov. DEC. | 20 9 15 19 21 59 18 10 43 17 28 27 16 12 11 | 14 23 40 14 9 13 12 19 48 | 3 | Jan Feb | 13 3 21 11 16 5 11 4 49 9 17 83 | 11 10 24 10 1 85 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. |
|----------------------------|--------|---|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 281. | | d. h. m. | d. h. m. | A.D. 284. | | d. h. m. | d. h. m. |
| в. | Jan | 7 19 2 | 8 3 21 | F.E. | JAN | 5 10 12 | 5 1 5 6 |
| March. | FEB | 6 7 46 | 6 13 47 | March. $d. h. m.$ | FEB | 3 22 56 | 4 9 24 |
| d. h. m. 20 23 20 | MAR. | 7 20 30 | 7 22 54 | 20 16 47 | MAR | 4 11 40 | 5 1 20 |
| 20 20 20 | APRIL | 6 9 14 | 6 7 13 | | APRIL | 3 0 24 | 3 13 51 |
| | MAY. | 5 21 58 | 5 15 35 | | MAY . | 2 13 8 | 2 23 42 |
| | 0 | 20 16 20 | 21 3 8 | | _ | (1 1 52 | 1 7 33 |
| | JUNE . | 4 10 42 | 4 0 58 | | JUNE. | 30 14 36 | 30 14 27 |
| | JULY. | 3 23 26 | 3 12 16 | | JULY . | 30 3 20 | 29 21 32 |
| | Aug. | 2 12 10 | (2 2 4 | | Aug | 28 16 4 | 28 5 47 |
| | | c 1 0 54 | (31 18 14 | | SEPT | 27 4 48 | 26 16 6 |
| | SEPT | 30 13 38 | 30 12 2 | | Oct | 26 17 32 | 26 5 1 |
| | Oct | 30 2 22 | 30 6 18 | | Nov | 25 6 16 | 24 20 39 |
| | 0 | 13 20 44 | 13 11 57 | | DEC | 24 19 0 | 24 14 26 |
| | Nov | 28 15 6 | 28 23 45 | | | | |
| | DEC | 28 3 50 | 28 15 19 | 285. | JAN | 23 7 44 | 23 9 13 |
| | - | 00 10 01 | 07 4 00 | D. | FEB. | 21 20 28 | 22 3 36 |
| 282. | JAN | 26 16 34 | 27 4 29 | | | 6 8 14 50 | 8 14 32 |
| | FEB | 25 5 18 | 25 15 14 | 20 22 36 | MAR | 23 9 12 | 23 20 10 |
| 21 5 9 | MAR | 26 18 2 | 26 23 58 | 20 22 00 | APRIL | 21 21 56 | 22 10 10 |
| | APRIL | 25 6 46 | 25 7 27 | | MAY. | 21 10 40 | 21 21 27 |
| | , 0 | 10 1 8 | 10 7 31 | | JUNE . | 19 28 24 | 20 6 35 |
| | MAY . | 124 19 30 | 24 14 34 | | JULY . | 19 12 8 | 19 14 80 |
| | JUNE. | 23 8 14 22 20 58 | 22 22 26 | | Aug. | 18 0 52 | 17 22 15 |
| | JULY. | | | | 0 | (1 19 14 | 1 15 51 |
| ļ | Aug. | 21 9 42 19 22 26 | 20 20 33 | | SEPT | 16 13 36 | 16 6 47 |
| | SEPT | 19 11 10 | 19 5 51 | | Oct. | 16 2 20 | 15 16 47 |
| | Oct | 3 5 32 | " " | | Nov. | 14 15 4 | 14 4 41 |
| | Nov. | 17 23 54 | | | DEC | 14 3 48 | 13 18 37 |
| | DEC. | 17 12 38 | 17 20 8 | | | | |
| ŀ | _ | | | 286. | JAN | 12 16 88 | 12 10 28 |
| 283. | JAN | 16 1 23 | 16 13 24 | c. | FEB. | (11 5 17 | 11 3 23 |
| G. | FEB | 14 14 7 | 15 3 54 | | 0 | 25 28 39 | 26 7 3 |
| 21 10 58 | MAR. | 16 2 51 | 16 15 25 | 21 4 25 | MAR | 12 18 1 | 12 20 44 |
| | APRIL | ∫14 15 35 | 1 | | APRIL | 11 6 45 | 11 13 22 |
| | 0 | 129 9 57 | 1 | | MAY. | 10 19 29 | 11 4 25 |
| | MAY . | 14 4 19 | 14 7 41 | | JUNE . | 9 8 13 | 9 17 24 |
| | JUNE. | 12 17 3 | | | JULY. | 8 20 57 | 9 4 26 |
| | JULY. | 12 5 47 | 11 21 25 | | A.vg | 7 9 41 | 7 14 6 |
| | AUG | 10 18 31 | 1 | | 0 | 22 4 3 | 21 16 84 |
| | SEPT. | | | | SEPT | 5 22 25 | 5 28 18 |
| | OCT. | $\begin{cases} 8 & 19.59 \\ 23 & 14.21 \end{cases}$ | | | Oct | 5 11 9 | 5 8 36 |
| | Nov. | \\\\ 23 14 21 \\\\ 7 8 43 | | | Nov. | 3 23 58 | 3 18 47 |
| | 70 | 0.01.05 | | | DEC. | 3 12 37 | 3 6 0 |
| | DEC. | 0 21 27 | 6 19 34 | | - 30. | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ect.) | Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|---|--|---|--|---|--|
| A.D. 287. B. March. d. h. m. 21 10 18 | FEB | (2 2 50 (81 15 34 80 4 18 29 17 2 28 5 46 27 18 30 26 7 14 24 19 58 24 8 42 | d. h. m. 1 18 20 81 7 47 1 22 21 31 13 45 30 5 32 29 21 2 28 11 34 28 0 48 26 12 46 24 23 53 24 10 40 | A.D. 290. E. March. d. h. m. 21 3 40 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV | d. h. m. 28 5 16 26 18 0 28 6 44 26 19 28 26 8 12 (10 2 34 24 20 56 24 9 40 22 22 24 21 11 8 20 23 52 19 12 36 | d. h. m. 28 13 4 26 22 37 28 7 3 26 15 5 25 23 40 10 12 6 24 9 49 23 22 18 22 13 24 21 6 41 21 1 5 19 19 17 |
| 288. A.G. 20 16 2 | Nov DEC JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov | 22 21 26 22 10 10 20 22 54 19 11 38 20 0 22 18 13 6 18 1 50 16 14 84 { 1 8 56 16 3 18 14 16 2 13 4 46 12 17 30 11 6 14 | 22 21 25 22 8 17 20 19 18 19 6 38 19 18 35 18 7 34 17 21 43 16 12 50 1 5 55 16 4 21 14 19 39 13 10 11 12 23 43 11 12 19 | 291. p. 21 9 29 | O DEC JAN FEB MAR APRIL JUNE . JULY . AUG . OCT NOV DEC | 1 | 3 22 31 19 12 1 18 2 28 16 14 18 17 23 49 16 7 40 15 14 43 13 22 0 13 6 39 11 17 38 10 7 36 10 0 27 8 19 20 8 14 47 |
| 289. F. 20 21 51 | DEC O JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT Oct Nov O DEC | (10 18 58 25 13 20 9 7 48 7 20 27 9 9 11 7 21 55 7 10 39 (5 23 23 20 17 45 5 12 7 4 0 51 2 13 35 (2 2 19 81 15 3 30 8 47 (14 22 9 16 31 | | 292. c.s. 20 15 18 | Jan. FEB. MAR. APRIL O MAY JUNE JULY AUG. SEPT. O OCT. | 6 22 53 5 11 37 6 0 21 4 13 5 19 7 27 4 1 49 2 14 33 (2 3 17 31 16 1 | 7 9 8 6 1 4 6 13 58 5 0 2 19 3 54 4 7 58 2 14 45 1 21 30 31 5 17 2 29 15 10 2 8 3 52 1 13 17 1 3 27 19 38 7 26 13 53 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 293. | Jan | d. h. m. 24 20 25 | d. h. m. 25 4 33 | A.D. 296. | Jan | d. h. m. 22 11 35 | d. h. m. |
| March. | Гев | 23 9 9 | 23 21 27 | E.D. | 0 | 6 5 57 | 6 19 24 |
| b. 16. 116. | MAR | 24 21 53 | 25 11 36 | d. h. m. | FEB | 21 0 19 | 20 18 50 |
| | 0 | (8 16 15 | 8 9 53 | 20 14 33 | MAR | 21 13 3 | 21 9 32 |
| | APRIL | 23 10 37 | 23 22 45 | | APRIL | 20 1 47 | 20 0 59 |
| 1 | MAY . | 22 23 21 | 23 7 28 | | MAY . | 19 14 31 | 19 16 35 |
| J | JUNE . | 21 12 5 | 21 14 45 | | June . | 18 3 15 | 18 7 42 |
| J | JULY. | 21 0 49 | 20 21 42 | | JULY . | 17 15 59 | (17 21 47 |
| I A | Aυg | 19 13 33 | 19 5 22 | | 0 | (1 10 21 | 131 21 57 |
| 8 | SEPT | 18 2 17 | 17 14 42 | | Aug | 16 4 43 | 16 10 37 |
| 1 | 0 | ſ 2 20 39 | 3 2 8 | | SEPT | 14 17 27 | 14 22 24 |
| | Эст | 17 15 1 | 17 2 22 | | Ост | 14 6 11 | 14 9 33 |
| ı | Nov | 16 3 45 | 15 15 41 | | Nov | 12 18 55 | 12 20 27 |
| I | DEC | 15 16 29 | 15 9 25 | | DEC | 12 7 39 | 12 7 19 |
| | TAN | 14 5 14 | 14 3 43 | 297. | JAN | (10 20 23 | 10 18 8 |
| 1 - | FEB | 12 17 58 | 12 22 18 | c. | 0 | 25 14 45 | 26 1 19 |
| 1 2 55 1 | MAR | f14 6 42 | 14 15 46 | | FEB | 9 9 7 | 9 5 4 |
| | 0 | 29 1 4 | 28 22 53 | 20 20 22 | MAR | 10 21 52 | 10 16 24 |
| 1 | APRIL | 12 19 26 | 13 7 2 | | APRIL | 9 10 36 | 9 4 32 |
| . 1 | MAY . | 12 8 10 | 12 19 38 | | MAY . | 8 23 20 | 8 17 51 |
| 1.3 | JUNE. | 10 20 54 | 11 5 48 | | June . | 7 12 4 | 7 8 25 |
| | JULY. | 10 9 33 | 10 14 21 | | JULY. | 7 0 48 | 6 28 51 |
| 1 | Aug | 8 22 22 | 8 22 14 | | 0 | 21 19 10 | 21 13 13 |
| 1 | SEPT | 7 11 6 | 7 6 27 | | Αυσ | 5 13 32 | 5 15 81 |
| 1 | Ост | 6 23 50 | 6 15 50 | | SEPT | 4 2 16 | 4 6 44 |
| 1 _ | Nov | 5 12 34 | 5 2 50 | | Oct., | 3 15 0 | 3 21 7 |
|]] | DEC | 5 1 18 | 4 15 43 | | Nov | 2 8 44 | 2 10 25 |
| | | | | | DEC | ſ 1 16 28 | 1 22 42 |
| 295. | JAN | 3 14 3 | 3 6 29 | | | \31 5 12 | 31 9 59 |
| F. 1 | FEB | § 2 2 47 | 1 22 42 | | | | |
| | 0 | 16 21 9 | 17 6 29 | 298. | JAN | 29 17 56 | 29 20 18 |
| 1 | MAR | 3 15 31 | 3 15 44 | в. | FEB | 28 6 41 | 28 5 58 |
| 1 | APRIL | 2 4 15 | 2 8 38 | 21 2 11 | Mar | 29 19 25 | 29 15 12 |
| | MAY. | § 1 16 59 | 2 0 28 | | APRIL | 28 8 9 | 28 0 59 |
| | _ | (31 5 43 | 31 14 32 | | MAY . | 27 20 53 | 27 12 4 |
| | JUNE. | 29 18 27 | 30 2 38 | | JUNE . | 26 9 37 | 26 1 1 |
| ī | JULY . | 29 7 11 | 29 13 5 | | JULY . | 25 22 21 | 25 15 57 |
| 1 | Aug | 27 19 55 | 27 22 38 | | Aug | 24 11 5 | 24 8 25 |
| 1 | SEPT | 26 8 39 | 26 8 2 | | SEPT | 22.23 49 | 28 1 84 |
| 1 | Oct | 25 21 23 | 25 17 57 | | Oct | 22 12 33 | 22 18 24 |
| - 1 | | 1 | | | Nov | 21 1 17 | 21 10 5 |
| | DEC. | 28 22 51 | 28 16 25 | 1 | DEC | 20 14 1 | 21 0 1 |
| - 1 | Nov Dec | 24 10 7 28 22 51 | 24 4 43 23 16 25 | | Nov | 21 1 17 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernul Equinux. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|-----------------------------------|----------------------------|--------|---|--|
| A.D. 299. | | d. h. m. | d. h. m. | A.D. 302. | | d. h. m. | d. h. m. |
| Α. | Jan | 19 2 45 | 19 12 2 | р. | JAN | 15 17 55 | 15 22 56 |
| March. | FEB | 17 15 29 | 17 22 14 | d, h , m . | FEB | 14 6 39 | 14 17 2 |
| d. h. m. 21 7 59 | MAR | 19 4 13 | 19 6 58 | 21 1 26 | MAR. | 15 19 23 | 16 8 37 |
| | APRIL | 17 16 57 | 17 14 53 | | APRIL | 14 8 7 | 14 21 11 |
| | MAY. | 17 5 41 | 16 22 53 | | MAY. | 13 20 51 | 14 7 1 |
| | 0 | (1 0 3 | 1 10 1 | | June . | 12 9 35 | 12 14 54 |
| | June . | 15 18 25 | 15 8 0 | | July. | 11 22 19 | 11 21 58 |
| 1 | July. | 15 7 9 | 14 19 12 | | Aug. | 10 11 3 | 10 5 18 |
| | Aug. | 13 19 53 | 13 9 2 | | SEPT. | 8 23 47 | 8 13 50 |
| | SEPT. | 12 8 37 | 12 1 25 | | _ | 8 12 31 | 8 0 23 |
| | Oct. | 11 21 21 | 11 19 35 | | Oct | 7 1 15 | 6 13 25 |
| | Nov. | 10 10 5 | 10 14 15 | | Nov | 6 13 59 | 6 4 57 |
| | | $\begin{cases} 10 & 10 & 3 \\ 25 & 4 & 27 \end{cases}$ | 24 20 46 | | DEC | 0 19 99 | 0 4 57 |
| 1 | 0 | 9 22 49 | 10 8 2 | | | | |
| | DEC | 9 22 43 | 10 6 2 | 303. | JAN | 5 2 44 | 4 22 27 |
| 300. | JAN | 8 11 34 | 8 23 46 | C. | FEB | 3 15 28 | 3 16 52 |
| G.F. | FEB | 7 0 18 | 7 12 52 | 21 7 15 | MAR | $\int 5 \ 4 \ 12$ | 5 10 52 |
| 20 13 48 | MAR. | 7 13 2 | 7 23 23 | | 0 | 19 22 34 | 19 22 35 |
| | APRIL | 6 1 46 | 6 7 49 | | APRIL | 3 16 56 | 4 3 13 |
| | MAY . | 5 14 30 | 5 15 2 | | MAY. | 3 5 40 | 3 17 8 |
| | 0 | 20 8 52 | 20 14 4 | | JUNE. | 1 18 24 | 2 4 30 |
| | JUNE . | 4 3 14 | 3 21 57 | | JULY . | 1 7 8 | 1 13 52 |
| | JULY . | 8 15 58 | 3 5 44 | | 0022. | 130 19 52 | 30 22 6 |
| | A | (2 4 42 | 1 15 27 | | Aug | 29 8 36 | 29 6 16 |
| | Aug | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 31 3 57 | | 0 | $\begin{cases} 13 & 2 & 58 \end{cases}$ | 12 23 2 |
| | SEPT | 80 6 10 | 29 19 31 | | SEPT | 127 21 20 | 27 15 11 |
| | Ocr | 29 18 54 | 29 13 38 | | Oct | 27 10 4 | 27 1 27 |
| | 0 | (13 13 16 | 13 12 5 | | Nov | 25 22 48 | 25 13 24 |
| | Nov | 28 7 38 | 28 9 5 | | DEC | 25 11 32 | 25 3 8 |
| | DEC | 27 20 22 | 28 4 12 | | | | } |
| 301. | JAN | 26 9 7 | 26 21 28 | 304. | JAN | 24 0 16 | 23 18 27 |
| Е. | FEB. | 24 21 51 | 25 11 51 | B.A. | FEB | 22 13 0 | 22 10 53 |
| 20 19 37 | MAR. | 26 10 35 | 26 23 11 | | 1 0 | 8 7 22 | 8 15 14 |
| 20 10 01 | APRIL | 24 28 19 | 25 7 59 | 20 13 4 | MAR. | 128 1 44 | 23 3 43 |
| | | 6 9 17 41 | 9 14 41 | 1 | APRIL | 21 14 28 | 21 20 3 |
| | MAY. | 24 12 3 | 24 15 10 | | MAY . | 21 3 12 | 21 11 3 |
| | JUNE . | 28 0 47 | 22 21 47 | | JUNE . | 19 15 56 | 20 0 13 |
| | JULY. | 22 13 31 | 22 4 58 | | JULY . | 19 4 40 | 19 11 38 |
| | | 21 2 15 | 20 13 47 | | Aug | 17 17 24 | f 17 21 46 |
| | Aug | 19 14 59 | 19 1 6 | | 0 | c 1 11 46 | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ |
| | SEPT | 19 14 59 | 18 15 25 | | SEPT | \\\ 16 6 8 | 16 7 24 |
| | Oct | | 1 | | Ocr | 15 18 52 | 1K 17 10 |
| | Nov | $\begin{cases} 2 & 22 & 5 \\ 17 & 16 & 97 \end{cases}$ | 3 3 14 17 8 32 | | Nov. | 14 7 36 | |
| | Nov. | 17 16 27 | | | DEC | 13 20 20 | 1 |
| | DEC | 17 5 11 | 17 3 34 | | | | |

| Mean | | Mean New | True New | Mean | 25 | Mean New | True New Moon. |
|--------------------|------------|--|---------------------|--------------------|--------|------------------------|----------------|
| Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. | Vernal Equinox. | Month. | Moon. (O Full Ecl.) | |
| | | | | | | | S 300 |
| A.D. | | d. h. m. | d. h. m. | A.D. | | d. h. m. | d. h. m. |
| 305. | | a. n. m. | w. n. m. | 308. | | | |
| G. March. | JAN | 12 9 4 | 12 2 54 | March. | JAN | 10 0 15 | 10 10 87 |
| d. h. m. | FEB | 10 21 49 | 10 15 52 | d. h. m. | FEB | 8 12 59 | 8 21 86 |
| 20 18 52 | Mar | 12 10 33 | 12 5 48 | 20 12 19 | MAR | 9 1 48 | 9 6 50 |
| | APRIL | 10 23 17 | 10 20 38 | | APRIL | 7 14 27 | 7 14 52 |
| | MAY . | 10 12 1 | 10 12 3 | | MAY . | 7 8 11 | 6 22 82 |
| | JUNE. | 9 0 45 | 9 3 30 | | June . | f 5 15 55 | 5 6 49 |
| | JULY. | 8 13 29 | 8 18 16 | | 0 | 20 10 17 | 20 19 5 |
| | Aug | 7 2 13 | 7 7 56 | | July . | 5 4 89 | 4 16 48 |
| | 0 | 21 20 35 | 21 6 58 | | Aug | 8 17 28 | 8 5 17 |
| | SEPT | 5 14 57 | 5 20 30 | | SEPT | 2 6 7 | 1 20 82 |
| | Oct | 5 3 41 | 5 8 12 | | _ | (1 18 51 | 1 14 5 |
| | Nov | 3 16 25 | 3 19 25 | | Oct | 81 7 85 | 81 8 52 |
| 1 | DEC. | 3 5 9 | 3 6 22 | | Nov | 29 20 19 | 80 8 26 |
| | | | | | 0 | (14 14 41 | 14 7 16 |
| 306. | JAN | 1 17 54 | 1 17 11 | | DEC | 29 9 8 | 29 20 28 |
| F. | OAM | \\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(\)\(| 31 8 52 | | 22.00 | (20 0 | |
| | FEB | | | | - | 07 04 40 | 00 10 10 |
| 21 0 41 | Mrs | 1 19 22 | 1 14 40 | 309. | JAN | 27 21 48 | 28 10 49 |
| 21 0 11 | Mar | (31 8 6 | 31 2 2 | В. | FEB | 26 10 82 | 26 22 29 |
| | APRIL | 29 20 50 | 29 14 28 | 20 18 8 | MAR | 27 28 16 | 28 7 46 |
| | MAY . | 29 9 34 | 29 4 17 | | APRIL | 26 12 0 | 26 15 21 |
|] ; | JUNE . | 27 22 18 | 27 19 19 | | MAY. | 26 0 44 | 25 22 10 |
| 1 | 0 | 12 16 40 | 12 13 28 | | June. | 24 18 28 | 24 5 20 |
| | July . | 27 11 2 | 27 11 3 | | July. | 24 2 12 | 28 18 59 |
| | Aug | 25 23 46 | 26 2 48 | | Aug | 22 14 56 | 22 1 8 |
| | SEPT | 24 12 30 | 24 17 57 | | SEPT | 21 8 40 | 20 15 10 |
| | Ocr | 24 1 14 | 24 8 5 | | Ocr | 20 16 24 | 20 8 12 |
| | Nov | 22 13 58 | 22 21 5 | | Nov | 19 5 8 | 19 8 16 |
| | DEC | 22 2 42 | 22 8 54 | | DEC | 18 17 52 | 18 22 48 |
| | | . 5 01 4 | K 10 90 | | | • | |
| 307. | T. 37 | $\begin{cases} 5 & 21 & 4 \\ 20 & 15 & 26 \end{cases}$ | 5 19 38 20 19 37 | 310. | JAN | 17 6 86 | 17 17 9 |
| Е. | JAN | 19 4 10 | | ۸. | FEB | 15 19 20 | 16 8 59 |
| 21 6 30 | FEB MAR | | | 20 28 57 | MAR. | 17 8 4 | 17 21 48 |
| 21 0 00 | | 20 16 54 | 20 14 29 | 20 20 01 | APRIL | (15 20 48 | 16 7 88 |
| | APRIL | 19 5 38 | 18 23 41 | | 0 | 80 15 10 | 80 10 40 |
| | MAY . | 18 18 22 17 7 6 | 18 9 48 | 1 | MAY . | 15 9 82 | 15 15 26 |
| | JUNE . | | 16 21 38 | | June . | 18 22 16 | 18 22 10 |
| | O | { 2 1 28 | 2 6 17 | | JULY. | 18 11 0 | 18 4 59 |
| | JULY . | 15 9 94 | 16 11 35 | | Aug | 11 28 44 | 11 12 57 |
| | Aug | 15 8 34 | 15 3 28 | | SEPT. | 10 12 28 | 9 28 2 |
| | SEPT | 13 21 18 | 13 20 36 | | Oct. | (10 1 12 | 9 11 58 |
| | Oct | 13 10 2 | 13 13 59 | | 0 | 12 | |
| | Nov | 11 22 46 | 12 6 34 | | 3T | 24 19 84 | |
| | DEC | \\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\ | 11 21 35 | | | 8 18 56 | 8 8 48 |
| | 10 | 126 5 52 | 25 21 52 | | DEC | 8 2 40 | 7 21 54 |
| | t · | 1 | l . | | | 1 | Li o |

| Mean Vernul Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|-----------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 311. G. | | d. h. m. | d. h. m. | A.D. 314. | | d. h. m. | d. h. m. |
| March. | JAN. | 6 15 24 | 6 17 13 | c. | JAN | 3 6 35 | 3 1 1 0 |
| d. h. m. | FEB | 5 4 8 | 5 12 2 | March. | FEB | (1 19 19 | 1 13 25 |
| 21 5 45 | MAR. | 6 16 58 | 7 4 54 | d. h. m. | 0 | 16 13 41 | 17 3 30 |
| | APRIL | 5 5 87 | 5 18 56 | 20 28 11 | MAR | 3 8 3 | 3 2 34 |
| | 0 | (19 28 59 | 19 17 12 | | APRIL | 1 20 47 | 1 16 39 |
| | MAY . | 4 18 21 | 5 6 2 | | 3/ | (1 9 31 | 1 7 37 |
| | June. | 8 7 5 | 3 14 47 | | MAY. | 30 22 15 | 30 23 3 |
| | July. | 2 19 49 | 2 22 12 | | June . | 29 10 59 | 29 14 16 |
| | Ana | § 1 8 83 | 1 5 24 | | JULY . | 28 23 43 | 29 4 43 |
| | Aug | 80 21 17 | 80 18 28 | | 0 | (12 18 5 | 12 5 33 |
| | SEPT | 29 10 1 | 28 28 0 | | Aug. | 27 12 27 | 27.18 6 |
| | 0 | (14 4 28 | 14 10 5 | | SEPT | 26 1 11 | 26 6 30 |
| | Ocr | 28 22 45 | 28 10 49 | | Oct | 25 13 55 | 25 18 11 |
| | Nov | 27 11 29 | 27 1 6 | | Nov. | 24 2 39 | 24 5 22 |
| | DEC | 27 0 18 | 26 17 85 | | DEC | 23 15 23 | 23 16 16 |
| | | | | | | | |
| 312. | JAN | 25 12 58 | 25 11 81 | 315. | JAN | 22 4 7 | 22 2 52 |
| F.E. | FEB. | 24 1 42 | 24 5 40 | в. | 0 | (5 22 29 | 6 9 5 |
| 20 11 81 | MAR. | 24 14 26 | 24 22 49 | | FEB | 20 16 51 | 20 13 21 |
| ZU II UI | | (8 8 48 | 8 6 88 | 21 5 0 | MAR | 22 5 36 | 22 0 6 |
| | 0 | 17 | 28 18 56 | | APRIL | 20 18 20 | 20 11 39 |
| | MAY. | 22 15 54 | 28 2 85 | | MAY . | 20 7 4 | 20 0 33 |
| | | 21 4 88 | | | JUNE . | 18 19 48 | 18 14 56 |
| | June. | 20 17 22 | 21 12 58 | | JULY. | 18 8 32 | 18 6 26 |
| | July. | | | | 0 | (2 2 54 | 1 20 55 |
| | Aug | 19 6 6 | 19 6 6 | | Aug. | 16 21 16 | 16 22 27 |
| | SEPT. | 17 18 50 | 17 14 45 | | SEPT. | 15 10 0 | 15 14 15 |
| | Ocr. | 17 7 84 | 17 0 27 | | Oct | 14 22 44 | 15 5 14 |
| | Nov. | 15 20 18 | 15 11 86 | | Nov. | 13 11 28 | 13 19 2 |
| | DEC | 15 9 2 | 15 0 22 | | DEC | 13 0 12 | 13 7 35 |
| | | | | | | | |
| 813. | JAN | 18 21 46 | 18 14 44 | 316. | JAN | 11 12 56 | 11 18 49 |
| D. | FEB | §12 10 80 | 1 | A.G. | FEB | 10 1 40 | 10 4 52 |
| | 0 | 27 4 52 | 27 14 45 | 20 10 49 | MAR | 10 14 24 | 10 14 1 |
| 20 17 28 | MAR. | 18 28 14 | 18 22 54 | | APRIL | 9 3 8 | 8 22 50 |
| | APRIL | 12 11 58 | 12 15 24 | | MAY . | 8 15 52 | 8 8 9 |
| | MAY . | 12 0 42 | 12 7 3 | | June . | 7 4 36 | 6 18 54 |
| | June . | 10 18 26 | 10 21 18 | | JULY . | 6 17 20 | 6 7 42 |
| | JULY. | 10 2 10 | 10 9 88 | | Aug | 5 6 4 | 4 22 42 |
| | Aug | 8 14 54 | 8 20 88 | | SEPT | 3 18 48 | 3 15 29 |
| | SEPT. | 7 8 88 | 7 6 87 | | Oct | 3 7 32 | 3 9 7 |
| | OUT | 6 16 22 | 6 16 82 | | Nov. | 1 20 16 | |
| | Nov. | 5 5 6 | 5 2 46 | II. | | (190 | 1 18 33 |
| 1 | 1 TAOA" . | 1 0 0 0 | 1 | | | 11 2 0 | 1 10 00 |
| | DEO. | 4 17 50 | | | DEC | 30 21 44 | |

| Mesn Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------------|---|--------|------------------------------------|------------------------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. 320. | | d. h. m. | d. h. m. |
| 317. | T | 29 10 29 | 29.20 38 | С.В. | JAN | 27 1 39 | 27 6 39 |
| March. | JAN | 27 23 13 | 28 6 33 | March. | FEB | 25 14 23 | 26 0 81 |
| d. h. m. 20 16 38 | FEB MAR | 29 11 57 | 29 14 55 | $\begin{bmatrix} d. h. m. \\ 20 10 4 \end{bmatrix}$ | MAR. | 26 3 7 | 26 15 55 |
| 20 10 00 | APRIL | 28 0 41 | 27 22 28 | | APRIL | 24 15 51 | 25 4 25 |
| | MAY. | 27 13 25 | 27 6 10 | | MAY . | 24 4 35 | 24 14 15 |
| | | (11 7 47 | 11 16 52 | | June . | 22 17 19 | 22 22 17 |
| | O June. | 26 2 9 | 25 15 6 | | JULY. | 22 6 3 | 22 5 35 |
| | JULY. | 25 14 53 | 25 2 14 | | Aug | 20 18 47 | 20 13 13 |
| | Aug | 24 3 37 | 23 16 10 | | SEPT | 19 7 31 | 18 22 4 |
| 1 | SEPT. | 22 16 21 | 22 8 47 | | Oct | 18 20 15 | 18 8 51 |
| | Oct | 22 5 5 | 22 3 18 | | Nov | 17 8 59 | 16 21 55 |
| | Nov | 20 17 49 | 20 22 19 | | DEC | 16 21 43 | 16 13 17 |
| | 0 | 6 5 12 11 | 5 5 38 | | | | |
| | DEC | 20 6 33 | 20 16 19 | 321. | JAN | 15 10 27 | 15 6 24 |
| 010 | _ | 10 10 17 | 40 0 E | A. | FEB | 18 28 11 | 14 0 22 |
| 318. E. | JAN | 18 19 17 17 8 1 | 19 8 5 17 21 4 | 20 15 53 | MAR. | (15 11 55 | 15 17 59 |
| 20 22 27 | FEB | 17 8 1 | 19 7 21 | 20 20 00 | 0 | 80 6 17 | 30 6 28 |
| 20 22 21 | MAR. | 17 9 29 | 17 15 33 | | APRIL | 14 0 39 | 14 10 7 |
| , | APRIL | (16 22 13 | 16 22 30 | | MAY . | 13 13 23 | 18 28 59 |
| | MAY . | 31 16 35 | 31 20 33 | | JUNE . | 12 2 7 | 12 11 80 |
| | JUNE . | 15 10 57 | 15 5 19 | | JULY . | 11 14 51 | 11 21 10 |
| F. 6 | JULY. | 14 23 41 | 14 13 5 | | Aug | 10 3 35 | 10 5 49 |
| | Aug. | 13 12 25 | 12 22 52 | | SEPT | (8 16 19 | 8 14 21 |
| | SEPT. | 12 1 9 | 11 11 30 | | 0 | 28 10 41 | 28 6 22 |
| 1 | Oct. | 11 13 53 | 11 3 13 | | Oct | 8 5 8 | 7 23 41 |
| | Nov. | (10 2 37 | 9 21 30 | | Nov | 6 17 47 | 6 10 12 |
| · | 0 | 24 20 59 | 24 21 0 | | DEC | 6 6 81 | 5 22 9 |
| | DEC | 9 15 21 | 9 17 4 | | | | |
| 319. | T | 8 4 5 | 8 12 11 | 322. | JAN | 4 19 15 | 4 11 85 |
| D. | JAN FEB | 6 16 50 | 7 5 22 | G. | FEB | 8 7 59 | 8 2 25 |
| 21 4 16 | MAR. | 8 5 34 | 8 19 37 | 20 21 42 | MAR. | (4 20 44 | 4 18 17 |
| 1 1 10 | APRIL | 6 18 18 | 7 6 48 | | 0 | 19 15 6 | 19 28 17 |
| | MAY. | 6 7 2 | | | APRIL | 8 9 28 | 3 10 88 |
| | 0 | 21 1 24 | 0 00 0 | | MAY . | 2 22 12 | 3 2 41 |
| | June . | 4 19 46 | 4 22 35 | ł i | Terror | (1 10 56 | 1 17 88 |
| Δ. | JULY. | 4 8 30 | 4 5 16 | | JUNE. | (80 28 40 | (178 |
| | Aug. | 2 21 14 | ſ 2 12 36 | | JULY. | 80 12 24 | 180 18 54 |
| | _ | (1 9 58 | 1101 01 01 | | Aug | 29 1 8 | 29 5 84 |
| | SEPT | 30 22 42 | 30 9 7 | | 0 | ∫12 19 80 | 12 7 18 |
| | Oct | 30 11 26 | 29 23 32 | | SEPT. | 27 18 52 | 27 15 44 |
| | 0 | 14 5 48 | 14 11 57 | | Oct | 27 2 36 | 27 1 57 |
| | Nov | 29 0 10 | 28 16 38 | | Nov. | 25 15 20 | 25 12 86 |
| | DEC | 28 12 54 | 28 11 30 | | DEC. | 25 4 4 | 24 28 45 |
| | 1 | | Į. | II . | 1 | J. | |

| | | | MUSALEM O | 141F T131E | | | |
|--|--------|-----------------------------|---------------------------------|----------------------------|------------|---|---------------------------------|
| Menn Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) (C | True New Moon. Full Ecl.) |
| A.D. 323. | | d. h. m. | d. h. m. | A.D. 326. | | d. h. m. | d. h. m. |
| F. | JAN | 23 16 49 | 23 11 27 | в. | 0 | ſ 5 13 36 | 5 6 10 |
| March. | FEB | | 21 23 51 | | JAN | $\begin{cases} 20 & 7 & 59 \end{cases}$ | 20 19 14 |
| $egin{array}{ c c c c c c c c c c c c c c c c c c c$ | MAR | 1 | 23 13 9 | March. | FEB. | 18 20 43 | |
| 21 0 01 | APRIL | | 22 3 27 | d. h. m. 20 20 57 | MAR. | 20 9 27 | |
| | MAY. | | 21 18 34 | 20 20 31 | APRIL | 18 22 11 | 20 14 55 |
| | | | 20 9 57 | | MAY . | | 18 22 35 |
| | June . | 19 21 13 | 20 1 0 | | 1 _ 1 | 18 10 55 | 18 5 56 |
| | JULY. | 18 9 57 | 18 15 10 | | June . | 16 23 39 | 16 14 0 |
| | Aug | (2.4.19 | 1 14 42 | | July . | 1 18 1 | 2 2 5 |
| | 0 | 16 22 41 | 17 4 21 | | | 16 12 23 | 15 23 54 |
| | SEPT. | 16 11 25 | | | Aug. | 15 1 7 | 14 12 25 |
| | Oct | 1 1 | 16 16 38 | | SEPT | 13 13 51 | 13 3 50 |
| | Nov. | 15 0 9 | 15 4 14 | | Ост. | 13 2 35 | 12 21 42 |
| | DEC | 14 12 53 | 14 15 21 | | Nov. | 11 15 19 | 11 16 47 |
| 004 | - | 10 1 07 | 13 2 1 | | DEC | 11 4 3 | 11 11 35 |
| 324. E.D. | JAN | 13 1 37 | | | 0 | 25 22 25 | 25 16 4 |
| | FEB | 11 14 21 | | 327. | T | 0.16.47 | 10 4 39 |
| 20 9 20 | MAR. | 12 8 5 | 11 22 36 | 321. A. | JAN FEB | 9 16 47 8 5 31 | 8 19 2 |
| | APRIL | 10 15 49 | 10 9 23 | | _ | 9 18 15 | 10 6 31 |
| | MAY. | 10 4 33 | 9 21 19 | 21 2 46 | MAR | 8 6 59 | 8 15 31 |
| | JUNE. | 8 17 17 | 8 10 49 | | MAY . | 7 19 43 | 7 22 53 |
| | JULY. | | 8 1 48 | | | 6 8 27 | 6 5 35 |
| 1 | . 0 | 23 0 23 | 22 21 4 | | JUNE . | 5 21 11 | 5 12 44 |
| | Aug | 6 18 45 | 6 17 49 | | JULY. | 4 9 55 | 3 21 25 |
| | SEPT | 5 7 29 | 5 10 3 | | AUG | 2 22 39 | 2 8 37 |
| | Oct | 4 20 13 | 5 1 48 | | 1 | 2 11 23 | (1 22 53 |
| 1 | Nov. | 3 8 57 | 3 16 30 | | Oct | (107 | 31 16 4 |
| | DRO | 2 21 41 | 3 5 51 | | Nov | 30 12 51 | 30 11 13 |
| | | 1 10 0= | 1 17 46 | | D=0 | | 30 6 46 |
| 005 | T 0 | 1 10 25 | | | DEC | 50 1 55 | 20 0 40 |
| 325. c. | JAN. O | 1.1 | _ | 328. | JAN. | 28 14 20 | 29 1 3 |
| | _ | \80 28 9 | 81 4 17 | G.F. | FEB. | 27 3 4 | 27 16 44 |
| | FEB | | 1 12 20 | 20 8 85 | | | 28 5 21 |
| 20 15 9 | MAR. | 1 11 54 | 1 13 39 | 20 000 | APRIL | | |
| | | 181 0 88 | 30 22 20 | | 1 | (10 22 54 | |
| | APRIL | 29 18 22 | 29 7 4 | | MAY | 11 | 1 |
| 1 | MAY . | | 28 16 48 | 1 | June | | |
| | June . | 1 | 27 4 24 | | JULY | | |
| | O | 12 9 12 | 1 | | Aug. | 00 = 00 | |
| | July . | | II. | 1 | SEPT. | | _ |
| | Aug. | | 25 10 25 | | 0 | 00 0 56 | |
| | SEPT. | 1 | 24 8 59 | | | 4 3 18 | |
| | Oct. | . 23 17 46 | 23 21 52 | | Nov. | 11 | |
| | Nov. | l l | 1 | | 1 | 1 | |
| | DEC. | . 21 19 14 | 22 6 11 | | DEC. | . 10 10 23 | |
| 1 | | i | 1 | 11 | 1 | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 329. | | d. h. m. | d. h. m. | A.D. 332. | | d. h. m. | d. h. m. |
| E. | JAN | 16 23 9 | 17 1 2 | B.A. | JAN | 14 14 18 | 14 9 52 |
| March. | FEB. | 15 11 53 | 15 19 34 | | FEB | (13 3 2 | 12 21 88 |
| d. h. m. 20 14 24 | MAR. | 17 0 37 | 17 12 13 | March. | 0 | 27 21 24 | 28 11 25 |
| 20 12 21 | APRIL | (15 13 21 | 16 2 7 | d. h. m. 20 7 50 | MAR | 13 15 46 | 13 10 9 |
| | 0 | 30 7 43 | 30 0 25 | | APRIL | 12 4 30 | 11 23 39 |
| | MAY. | 15 2 5 | 15 13 12 | | MAY . | 11 17 14 | 11 14 18 |
| | June . | 13 14 49 | 13 22 4 | | June. | 10 5 58 | 10 5 28 |
| | JULY. | 13 3 33 | 13 5 43 | | JULY. | 9 18 42 | 9 20 50 |
| | Aug | 11 16 17 | 11 13 14 | | Aug | (8 7 26 | 8 11 48 |
| · | SEPT. | 10 5 1 | 9 21 33 | | 0 | 23 1 48 | 22 13 15 |
| | Ост | (9 17 45 | 9 7 25 | | SEPT | 6 20 10 | 7 1 41 |
| | 0 | 24 12 7 | 24 18 7 | | Oct | 6 8 54 | 6 14 41 |
| | Nov | 8 6 29 | 7 19 23 | | Nov | 4 21 38 | 5 2 51 |
| | DEC | 7 19 18 | 7 9 34 | | DEC | 4 10 22 | 4 14 19 |
| | | | | | | | |
| 330. | JAN | 6 7 57 | 6 1 44 | 333. | JAN | 2 23 7 | 8 1 12 |
| D. | FEB | 4 20 41 | 4 19 12 | G. | FEB | (1 11 51 | 1 11 80 |
| 20 20 13 | MAR | 6 9 25 | 6 12 54 | | 0 | 16 6 18 | 16 16 42 |
| | APRIL | (422 9 | 5 5 43 | 20 13 39 | MAR | 8 0 35 | 2 21 80 |
| | 0 | 19 16 31 | 19 14 17 | | APRIL | 1 13 19 | (1 7 40 |
| | MAY . | 4 10 53 | 4 20 44 | | 36 | (1 2 3 | 180 18 42 |
| | June . | 2 23 37 | 3 9 28 | | MAY. | 180 14 47 | 30 7 12 |
| | JULY . | 2 12 21 | 2 20 7 | | JUNE. | 29 3 31 | 28 21 25 |
| | 1 770 | § 1 1 5 | 1 5 20 | | July. | 28 16 15 | 28 18 8 |
| | Aug | 30 13 49 | 30 14 5 | | 0 | 12 10 37 | 12 4 43 |
| | SEPT | 29 2 33 | 28 23 8 | | Aug | 27 4 59 | 27 5 29 |
| | Ост | 28 15 17 | 28 9 9 | | SEPT | 25 17 48 | 25 21 52 |
| | Nov | 27 4 1 | 26 20 25 | | Ост | 25 6 27 | 25 18 25 |
| , | DEC | 26 16 45 | 26 9 1 | | Nov | 23 19 11 | 24 8 41 |
| | | | | | DEC | 28 7 55 | 28 16 25 |
| 331. | JAN | 25 5 30 | 24 22 57 | | | | |
| c. | FEB | 23 18 14 | 23 14 3 | 334. | JAN | 21 20 40 | 22 8 35 |
| | 0 | 10 12 36 | 10 22 51 | F. | FER | 20 9 24 | 20 18 20 |
| 21 2 2 | MAR | 25 6 58 | 25 5 58 | 20 19 28 | MAR | 21 22 8 | 21 22 1 |
| | APRIL | 23 19 42 | 23 22 4 | | APRIL | 20 10 52 | 20 6 24 |
| | MAY . | 23 8 26 | 23 13 36 | | MAY . | 19 23 36 | 19 15 20 |
| | June . | 21 21 10 | 22 3 54 | | JUNE. | 18 12 20 | 18 1 46 |
| | JULY. | 21 9 54 | 21 16 41 | | JULY. | 18 1 4 | 17 14 28 |
| | Aug | 19 22 38 | 20 4 8 | | Aug | 16 18 48 | 16 5 86 |
| | SEPT | 18 11 22 | 18 14 45 | | SEPT | 15 2 32 | 14 22 44 |
| | Oct | 18 0 6 | 18 1 8 | | Ост | 14 15 16 | 14 16 49 |
| | Nov. | 16 12 50 | 16 11 41 | | Nov | 13 4 0 | 18 10 87 |
| | DEC | 16 1 34 | 15 22 35 | | DEC | 12 16 44 | 18 8 2 |
| , | Į. | 1 | | <u>.</u> . | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) |
|----------------------------|---|------------------------------------|-----------------------------------|----------------------------|--------|-------------------------------------|-----------------------------|
| A.D. 335. | CONTRACTOR OF THE PARTY OF THE | d. h. m. | d. h. m. | A.D. 338. | | d. h. m. | d, h. m. |
| E. | JAN | 11 5 28 | 11 17 16 | ۸. | JAN | 7 20 38 | 7 19 24 |
| March. | FEB. | 9 18 12 | 10 5 5 | March. | FEB. | 6 9 22 | 6 14 14 |
| d. h. m. 21 1 17 | MAR. | 11 6 56 | 11 14 42 | d. h. m. 20 18 43 | MAR. | 7 22 6 | 8 7 51 |
| | APRIL | 9 19 40 | 9 22 48 | 20 20 20 | APRIL | 6 10 50 | 6 23 4 |
| | MAY . | 9 8 24 | 9 5 58 | | MAY. | 5 23 34 | 6 11 30 |
| | JUNE . | (721 8 | 7 13 26 | | June . | 4 12 18 | 4 21 26 |
| | O | 22 15 80 | 22 23 41 | | July . | 4 1 2 | 4 5 41 |
| | JULY . | 7 9 52 | 6 22 15 | ŀ | Aug. | 2 13 46 | (2 13 17 |
| | Aug. | 5 22 86 | 5 9 22 | | | (1 2 30 | 81 21 14 |
| | SEPT | 4 11 20 | 8 28 25 | | SEPT | 80 15 14 | 30 6 26 |
| | Ocr | 4 0 4 | 8 16 18 | | Ocr | 30 8 58 | 29 17 25 |
| | Nov | 2 12 48 | 2 11 5 | | Nov | 28 16 42 | 28 6 28 |
| | | 2 1 82 | 2 6 20 | | DEC | 28 5 26 | 27 21 35 |
| | DEC. O | 16 19 54 | 16 14 81 | | | | |
| | | (81 14 16 | | 339. | JAN. | 26 18 11 | 26 14 17 |
| | | (| 1 0 80 | G. | FEB. | 25 6 55 | 25 7 46 |
| 336. D.C | JAN | 80 8 1 | 80 16 18 | 21 0 32 | MAR. | 26 19 39 | 27 0 59 |
| D.C | FEB. | 28 15 45 | 29 5 8 | 0 | 0 | (10 14 1 | 10 14 16 |
| 20 7 6 | MAR. | 29 4 29 | 29 15 12 | | APRIL | 25 8 23 | 25 16 52 |
| | APRIL | 27 17 18 | 27 28 10 | | MAY . | 24 21 7 | 25 6 45 |
| | MAY . | 27 5 57 | 27 5 59 | | JUNE . | 23 9 51 | 23 18 31 |
| | 0 | (11 0 19 | 11 8 1 | | JULY . | 22 22 35 | 28 4 32 |
| İ | JUNE . | 25 18 41 | 25 12 45 | | Aug | 21 11 19 | 21 13 38 |
| | JULY . | 25 7 25 | 24 20 81 | | SEPT | 20 0 3 | 19 22 41 |
| | Aug | 28 20 9 | 28 6 28 | | 0 | (4 18 25 | 4 13 50 |
| | SEPT | 22 8 58 | 21 19 16 | | Ocr | 19 12 47 | 19 8 22 |
| | Ocr | 21 21 87 | 21 11 6 | | Nov | 18 1 31 | 17 19 3 |
| | Nov | 20 10 21 | 20 5 28 | | DEC | 17 14 15 | 17 6 56 |
| | 0 | 6 5 4 48 | 5 6 0 | 1 | | | |
| | DEC | 19 28 5 | 20 1 1 | 340. | JAN | 16 2 59 | 15 20 1 |
| 337. | JAN | 18 11 49 | 18 20 5 | F.E. | FEB | 14 15 48 | 14 10 18 |
| 11. | FEB. | 17 0 88 | 17 18 7 | 20 6 21 | MAR | ſ15 4 28 | 15 1 84 |
| 20 12 54 | MAR. | 18 18 18 | 19 8 18 | | 0 | 29 22 50 | 30 7 11 |
| | APRIL | 17 2 2 | 17 14 17 | | APRIL | 18 17 12 | 18 17 25 |
| | MAY . | (16 14 46 | 16 22 52 | | MAY . | 18 5 56 | 13 9 12 |
| | 0 | 81 9 8 | 81 8 47 | | June . | 11 18 40 | 12 0 12 |
| | JUNE . | 15 8 83 | 15 6 1 | | JULY. | 11 7 24 | 11 13 55 |
| | JULY . | 14 16 14 | 14 12 50 | | Aug. | 9 20 8 | 10 2 15 |
| | Aug. | 18 4 58 | 12 20 28 | | SEPT. | 1.3 | 1 |
| | SEPT. | 11 17 42 | 11 5 88 | | 0 | 28 8 14 | |
| | Ocr | 11 6 26 | 10 17 19 | | Oct. | 7 21 36 | |
| | Nov. | (9 19 10 | 9 7 47 | | Nov. | 6 10 20 | |
| | 0 | 24 18 82 | 21 20 44 | | DEC. | . 528 4 | 5 21 85 |
| | DEC. | 9 7 54 | 9 0 48 | | | | |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) | Mean Vernal | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) |
|----------------|------------|-----------------------|------------------------------------|----------------|--------|----------------|------------------------------------|
| Equinox. | | (O Full Ect.) | (O Full Edi.) | Equinox. | | (O F an 1501.) | (O Buil Eci.) |
| A.D. 341. | | d. h. m. | d. h. m. | A.D. 344. | | d. h. m. | d. h. m. |
| March. | JAN | 4 11 48 | 4 8 36 | A.G. | | 2 2 58 | 2 14 41 |
| d. h. m. | FEB | 3 0 32 | 2 19 52 | , | JAN. O | 316 21 20 | 16 14 26 |
| 20 12 10 | MAR | 4 13 16 | 4 7 42 | | | (81 15 42 | ••• |
| | APRIL | 3 2 0 | 2 20 23 | March. | FEB | | 1 8 41 |
| | MAY . | 2 14 44 | 2 10 11 | d. h. m. | 7.7 | 1 4 26 | 1 14 14 |
| | ~ | (1 3 28 | 1 1 1 | 20 5 36 | MAR | 130 17 10 | 30 22 50 |
| 1 | JUNE. | 130 16 12 | 30 16 26 | | APRIL | 29 5 54 | 29 6 11 |
| | JULY. | 30 4 56 | 30 7 47 | | MAY. | 28 18 38 | 28 13 18 |
| | Aug | 28 17 40 | 28 22 31 | | JUNE . | 27 7 22 | 26 21 14 |
| | 0 | (12 12 2 | 11 22 34 | | 0 | (12 1 44 | 12 9 5 |
| | SEPT | 127 6 24 | 27 12 18 | | JULY. | 126 20 6 | 26 7 5 |
| | Oct | 26 19 8 | 27 1 8 | | Aug. | 25 8 50 | 24 19 42 |
| | Nov. | 25 7 52 | 25 13 7 | | SEPT | 23 21 84 | 23 11 17 |
| | DEC | 24 20 36 | 25 0 18 | | Oct | 23 10 18 | 23 5 23 |
| | | | | | Nov. | 21 23 2 | 22 0 44 |
| 342. | т | 09 0 01 | 00 10 47 | | DEC. | 21 11 46 | 21 19 42 |
| c. | JAN Feb | 23 9 21 21 22 5 | 28 10 47 | | Date | | |
| 20 17 59 | | | 21 20 40 | | 0 | [5 6 8] | 5 0 47 |
| 20 1. 33 | MAR. | 23 10 49 | 23 6 24 | 345. | JAN | 120 0 31 | 20 12 48 |
| | APRIL | 21 23 33 | 21 16 89 | F. | FEB | 18 13 15 | 19 8 6 |
| | MAY. | 21 12 17 | 21 4 9 | 20 11 25 | Mar | 20 1 59 | 20 14 24 |
| | JUNE. | 20 1 1 | 19 17 23 | | APRIL | 18 14 43 | 18 23 12 |
| | JULY. | 19 13 45 | 19 8 24 | | MAY. | 18 3 27 | 18 6 24 |
| | . 0 | ∫ 3 8 7 | 3 4 48 | | June. | 16 16 11 | 16 18 1 |
| <u> </u> | Aug | 18 2 29 | 18 0 43 | | JULY. | 16 4 55 | 15 20 12 |
| | SEPT | 16 15 13 | 16 17 28 | | Aug | 14 17 89 | 14 5 0 |
| | Oct. | 16 3 57 | 16 9 46 | | SEPT | 13 6 28 | 12 16 22 |
| | Nov. | 14 16 41 | 15 0 59 | | Ocr | 12 19 7 | 12 6 47 |
| | DEC | 14 5 25 | 14 14 38 | | Nov | 11 7 51 | 11 0 2 |
| | | | | | DEC | 10 20 35 | 10 19 11 |
| 343. | JAN | <i>{</i> 12 18 9 | 13 2 34 | 346. | JAN | 9 9 19 | 9 14 40 |
| ь. | 0 | 127 12 31 | 27 11 15 | E. | FEB | 7 22 3 | 8 8 47 |
| 00.00 45 | FEB | 11 6 53 | 11 12 50 | 20 17 14 | MAR. | 9 10 47 | 10 0 20 |
| 20 23 47 | Mar | 12 19 38 | 12 21 49 | | APRIL | 7 28 81 | 8 12 48 |
| | APRIL | 11 8 22 | 11 6 4 | | MAY . | 7 12 15 | 7 22 28 |
| | MAY. | 10 21 6 | 10 14 23 | | 0 | 22 6 87 | 22 0 1 |
| | JUNE. | 9 9 50 | 8 23 49 | | June . | 6 0 59 | 6 6 14 |
| | July. | § 8 22 34 | 8 11 15 | | JULY. | 5 13 43 | 5 18 9 |
| | 0 | ¹ 23 16 56 | 23 21 12 | | Aug | 4 2 27 | 3 20 18 |
| | Aug | 7 11 18 | 7 1 13 ⁻ | | SEPT. | 2 15 11 | 2 4 44 |
| | SEPT | 6 0 2 | 5 17 33 | | | (2 8 55 | 1 15 15 |
| | Ост | 5 12 46 | 5 11 30 | | Oct | 81 16 89 | 81 4 22 |
| | Nov | 4 1.30 | 4 5 49 | | 0 | (15 11 1 | 15 18 42 |
| | DEC | 3 14 14 | 3 23 14 | | Nov | 30 5 28 | 29 20 8 |
| | | | | | DEC. | 29 18 7 | 29 13 58 |
| | | | | | - Lau | 20 10 11 | 79 19 08 |

| Mean Vernal Equinox. | Month. | Mean New Moon. Full Ecl.) | True New Moon. Moon. | Mesn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) (| True New Moon. O Full Ecl.) |
|---|--|--|--|---|--|--|--|
| A.D. 347. b. March. d. h. m. 20 28 8 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O Nov DEC | 26 19 36 23 8 20 26 21 4 (11 15 26 (26 9 48 24 22 82 | d. h. m. 28 8 45 27 2 57 28 19 21 27 9 9 11 7 36 26 20 18 25 5 21 24 18 16 22 21 8 21 5 49 20 15 58 5 2 18 19 4 1 18 18 2 | A.D. 350. g. March. d. h. m. 20 16 29 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG OCT NOV DEC | d. h. m. 24 22 2 23 10 46 {10 5 8 24 23 30 23 12 14 23 0 58 21 13 42 21 2 26 19 15 10 { 3 9 32 18 3 54 17 16 38 16 5 22 15 18 6 | d. h. m. 24 18 29 28 5 44 10 19 10 24 17 39 23 6 38 22 20 45 21 11 54 21 3 29 19 18 50 2 21 8 18 9 24 17 28 0 16 11 36 15 23 16 |
| 348. c.n. 20 4 52 | JAN FEB MAR APRIL. O MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 17 15 41 16 4 25 16 17 9 15 5 58 30 0 15 14 18 87 18 7 21 12 20 5 11 8 49 9 21 88 9 10 17 7 28 1 7 11 45 | 17 9 50 16 2 47 16 20 1 15 12 31 20 21 51 15 8 26 13 16 19 18 8 18 11 12 59 9 22 12 9 7 48 7 18 0 7 5 17 | 351. F. 20 22 18 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT Nov DEC | 14 6 51 {12 19 85 27 18 57 14 8 19 12 21 3 12 9 47 10 22 81 10 11 15 { 8 28 59 23 18 21 7 12 43 7 1 27 5 14 11 5 2 55 | 14 10 2 12 20 1 28 0 11 14 5 81 12 15 9 12 1 42 10 18 58 10 4 0 8 19 50 23 12 39 7 12 41 7 5 36 5 21 42 5 12 20 |
| 349. 20 10 40 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 6 0 29 4 18 18 6 1 57 4 14 41 4 8 25 2 16 9 { 2 4 58 81 17 87 80 6 21 28 19 5 28 7 49 26 20 88 26 9 17 | 5 17 88 4 7 4 5 21 84 4 12 55 4 4 88 2 20 4 2 10 84 81 28 48 80 11 48 28 23 0 28 9 51 26 20 88 26 7 80 | 352. E.D. 20 4 7 | JAN FEB MAR APRIL MAY JUNE JULY O AUG. SEPT. OCT. NOV. DEC. | 2 17 7 7 1 5 51 80 18 83 80 7 18 82 820 8 8 47 12 8 8 12 12 18 12 12 12 12 12 12 12 12 12 12 12 12 12 | 5 80 18 52 29 22 28 8 8 42 7 27 21 21 9 12 5 15 1 26 12 88 5 25 6 4 9 25 0 85 8 23 18 47 |

| | 1 | | LICOALEM | OIVIL TIMI | · · · · · · · · · · · · · · · · · · · | · · · · · · · · · · · · · · · · · · · | |
|----------------------------|-------------|------------------------------------|----------------|----------------------------|---------------------------------------|--|------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 353. | | d. h. m. | d. h. m. | A.D. 356. | | d. h. m. | d. h. m. |
| March. | JAN | 21 13 12 | 22 1 43 | G.F. | JAN | 19 4 22 | 19 3 15 |
| d. h. m. | FEB | 20 1 56 | 20 13 23 | March. $d.$ $h.$ $m.$ | FEB | 17 17 6 | 17 21 43 |
| 20 9 56 | MAR | 21 14 40 | 21 22 44 | 20 3 22 | MAR. | 18 5 50 | 18 15 1 |
| | APRIL | 20 3 24 | 20 6 27 | | APRIL | 16 18 34 | 17 6 5 |
| 1 | MAY . | 19 16 8 | 19 13 26 | | MAY . | 16 7 18 | 16 18 32 |
| | June . | 18 4 52 | 17 20 45 | | JUNE . | 14 20 2 | 15 4 36 |
| | 0 | ſ 2 23 14 | 3 6 32 | | JULY. | 14 8 46 | 14 13 7 |
| | JULY. | (17 17 36 | 17 5 30 | | Aug. | 12 21 30 | 12 21 4 |
| | Aug | 16 6 20 | 15 16 41 | | SEPT. | 11 10 14 | 11 5 26 |
| | SEPT | 14 19 4 | 14 6 52 | | Oct. | 10 22 58 | 10 14 57 |
| | Ocr | 14 7 48 | 13 23 56 | | Nov. | 9 11 42 | 9 2 6 |
| 1 | Nov | 12 20 32 | 12 18 56 | | DEC. | 9 0 26 | 8 15 6 |
| | DEC | (12 9 16 | 12 14 23 | | | 0 0 20 | 0 20 0 |
| | 0 | 27 3 38 | 26 23 22 | 057 | T | 7 10 11 | 7 × ×0 |
| 354. | JAN | 10.00 1 | 44 0 00 | 357. E. | JAN | 7 13 11 | 7 5 53 |
| B. | FEB. | 10 22 1 | 11 8 38 | | FEB | 6 1 55 | 5 22 5 |
| 20 15 45 | MAR. | 9 10 45 | 10 0 20 | 20 9 11 | MAR | 7 14 39 | 7 15 3 |
| 20 10 40 | | 10 23 29 | 11 13 2 | | APRIL | 6 8 23 | 6 7 50 |
| | APRIL | 9 12 13 | 9 22 54 | | 0 | 20 21 45 | 20 21 58 |
| | MAY. | 9 0 57 | 9 6 42 | | MAY . | 5 16 7 | 5 23 32 |
| | JUNE . | 7 13 41 | 7 13 26 | | June. | 4 4 51 | 4 13 30 |
| 7 11 | July. | 7 2 25 | 22 9 29 | | JULY. | 3 17 35 | 4 1 32 |
| | | | 6 20 12 | | Aug | $\begin{cases} 2 & 6 & 19 \\ 0 & 10 & 0 \end{cases}$ | 2 11 59 |
| | Aug Sept | } | 5 4 9 | | | (31 19 3 | 31 21 35 |
| | Oct. | 4 3 53 3 16 37 | 3 14 13 | | SEPT | 30 7 47 | 30 7 6 |
| | Nov. | | 3 3 9 | | 0 | $\begin{cases} 15 & 2 & 9 \\ 22 & 22 & 24 \end{cases}$ | 14 21 26 |
| | 1404 | | 1 19 7 | | Oct | (29 20 31 | 29 17 9 |
| | Dra o | 1 18 5 | 1 13 28 | | Nov. | 28 9 15 | 28 3 58 |
| | DEC. O | 16 12 27 31 6 49 | 16 14 59 | | DEC | 27 21 59 | 27 15 42 |
| | | 31 6 49 | 31 8 58 | | | | |
| 355. | Jan | 29 19 33 | 30′ 3 52 | 358. | JAN | 26 10 43 | 26 4 23 |
| A. | FEB | 28 8 17 | 28 20 43 | D. | FEB | 24 23 27 | 24 18 4 |
| 20 21 33 | MAR | 29 21 1 | 30 10 39 | 20 15 0 | MAR | 26 12 11 | 26 8 43 |
| | APRIL | 28 9 45 | 28 21 37 | | . 0 | ∫ 10 6 33 | 10 14 57 |
| 1 | MAY. | 27 22 29 | 28 6 13 | | APRIL | (25 0 55 | 25 0 6 |
| | 0 | ∫11 16 51 | 11 10 19 | | MAY . | 24 13 39 | 24 15 39 |
| | JUNE . | 26 11 13 | 26 13 27 | | JUNE . | 23 2 28 | 23 6 45 |
| | JULY. | 25 23 57 | 25 20 27 | | JULY. | 22 15 7 | 22 20 49 |
| | Aug | 24 12 41 | 24 4 16 | | Aug | 21 8 51 | 21 9 40 |
| | SEPT | 23 1 25 | 22 13 47 | | SEPT | 19 16 35 | 19 21 31 |
| | Ост. | 22 14 9 | 22 1 39 | | 0 | ∮ 4 10 57 | 3 22 34 |
| | Nov | 21 2 53 | 20 16 8 | | Ост | (19 5 19 | 19 8 44 |
| | _ 0 | ∫ 5 21 15 | 6 5 30 | | Nov. | 17 18 3 | 17 19 41 |
| | DEC | 20 15 37 | 20 8 57 | | Dec | 17 6 47 | 17 6 33 |
| 1 | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Verual Equinox. | Menth. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|-------------|------------------------------------|----------------|----------------------------|--------|------------------------------------|-----------------------------|
| A.D. 359. | | d. h. m. | d. h. m. | A.D. 362. | | d. h. m. | d. h. m. |
| . c. | JAN | 15 19 32 | 15 17 22 | F. | JAN | (12 10 42 | 12 23 7 |
| March. | FEB | 14 8 16 | 14 4 13 | | 0 | 27 5 4 | 26 22 37 |
| 20 20 49 | MAR. | (15 21 0 | 15 15 27 | March. $d. h. m.$ | FEB | 10 23 26 | 11 12 2 |
| | 0 | 30 15 22 | 81 4 51 | 20 14 15 | MAR | 12 12 10 | 12 22 20 |
| 1 | APRIL | 14 9 44 | 14 3 33 | | APRIL | 11 0 54 | 11 6 38 |
| | MAY. | 13 22 28 | 13 16 52 | | MAY . | 10 13 38 | 10 13 44 |
| | JUNE. | 12 11 12 | 12 7 29 | | June. | 9 2 22 | 8 20 40 |
| | JULY. | 11 23 56 | 11 22 58 | | JULY . | (815 6 | 8 4 31 |
| | Aug | 10 12 40 | 10 14 41 | | 0 | 23 9 28 | 23 16 11 |
| | SEPT | (9 1 24 | 9 5 58 | | Aug | 7 3 50 | 6 14 25 |
| | 0 | 23 19 46 | 23 6 37 | | SEPT | 5 16 34 | 5 3 8 |
| | Ocr | 8 14 8 | 8 20 23 | | Ост | 5 5 18 | 4 18 55 |
| | Nov | 7 .2 52 | 7 9 44 | | Nov | 3 18 2 | 3 13 12 |
| | DEC | 6 15 36 | 6 21 59 | | DEC | 3 6 46 | 3 8 43 |
| | | | | | | 1 10 20 | 2 3 46 |
| 360. | JAN. | 5 4 20 | 5 9 11 | 262 | Tan O | 1 19 30 | 16 9 28 |
| В.А. | FEB. | 3 17 4 | 8 19 25 | 363. E. | JAN. O | | 31 20 49 |
| 20 2 38 | MAR. | 4 5 48 | 4 4 52 | | Trans | | |
| 20 2 00 | APRIL | 2 18 32 | 2 14 5 | | FEB | | 2 10 59 |
| | 23.1 3.1 11 | (2 7 16 | d | 20 20 4 | MAR. | 31 9 42 | 1 |
| | MAY . | 31 20 0 | 4 | | Anner | | 30 6 45 |
| 1 | JUNE . | 30 8 44 | 30 0 1 | | MAY | 1 | |
| | JULY. | 29 21 28 | | | JUNE | | |
| | Aug. | 28 10 12 | 1 | | JULY | | |
| | SEPT. | 26 22 56 | 1 | | Aug. | | |
| | Oct. | 26 11 40 | | | SEPT. | | |
| į. | Nov. | | | | Ocr. | . 24 2 50 | |
| | DEC. | | | 1 | Nov. | | |
| | D.20. | | | 11 | DEC. | | |
| 681 | ~ | 00 1 5 | 3 23 11 14 | | | | |
| 361. | JAN. | . 28 1 58 | | 304. | JAN. | | 3 20 22 28 |
| | 0 | . 21 14 8 | | D.C. | FEB. | | 1 |
| 100 0 0 | FEB. | | | 11 20 1 00 | | | |
| 20 8 20 | 1 | 24 40 | 5 21 13 41 | 11 | APRII | | 7 |
| | APRII. | | | 11 | MAY | | 1 |
| | MAY | | | 11 | _ 0 | 1 14 2 | |
| | JUNE | 1 | | - 11 | JUNE | 1,44040 | |
| | July | | | 11 | July | 1 | |
| | 0 | 13 | 1 17 8 12 | | Aug. | | 1 |
| | Aug. | | | . 11 | SEPT. | | |
| | SEPT. | . 15 20 2 | | - 11 | Ост. | | |
| 1 | Oct. | | | | | 11 0 9 | 1 |
| | Nov. | - | | 11 | _ 0 | (25 18 4 | |
| | DEC. | . 13 21 5 | 1 Total 1 97 | - | DEC. | . 10 13 | 7 10 4 26 |
| | | 1 | 11 | 11 | | | |

| 800. | | | | | | | | |
|--|----------------------------------|-----------------|----------------------|----------------------|------------------------|-----------------|-------------------------------|----------------------|
| 365. March. d. h. m. Fen | Vernal | Month. | Moon. | Moon. | Vernal | Month. | Moon. | Moon. |
| AFRIL 7 16 4 8 2 21 MAX . { 7 4 48 7 16 6 0 | 365. B. March. d. h. m. | | 9 1 52 | 8 21 59 | 368. F.E. March. | | 6 17 2 | |
| June June June 5 17 32 6 3 21 Jule 5 6 16 5 12 39 Aug. 3 19 0 3 20 57 Sept. 2 7 44 2 5 12 Oct. {1 20 28 1 14 15 Si 9 12 31 0 41 O {15 3 34 15 10 23 Nov. {29 21 56 29 12 43 Dec. 29 10 40 29 2 31 June 26 12 8 26 10 13 Aug. 27 23 24 27 17 50 Feb. 26 12 8 26 10 13 Aug. 28 0 22 28 7 24 Nov. 26 13 6 26 20 24 Dec. 26 14 5 4 24 23 9 June 24 15 4 24 23 9 June 24 15 4 24 23 9 June 24 15 4 24 23 9 June 24 15 4 24 23 9 June 22 16 32 22 20 43 Sept. 21 5 16 21 6 26 Oct. 20 18 0 20 16 23 Okara 20 18 0 20 16 23 Okara 20 19 19 Aug. 17 9 41 74 458 April 15 22 25 15 19 46 May 15 11 9 15 11 8 June 13 23 58 July 13 12 37 June 13 23 58 July 13 12 37 June 13 23 58 July 13 12 37 Rug. 10 10 15 8 Oct. 10 2 49 10 7 22 Nov. 8 15 38 8 18 55 Dec. 8 4 47 8 8 5 87 Nov. 8 15 38 8 18 55 Dec. 8 4 47 8 8 5 87 Nov. 8 15 38 8 18 55 Nov. 8 15 38 8 18 55 Nov. 8 15 38 8 18 55 Nov. 8 15 38 8 18 55 Nov. 8 15 38 8 8 15 50 Nov. 8 15 38 8 8 15 50 Nov. 8 15 38 8 8 15 50 Nov. 8 15 38 8 8 15 50 Nov. 8 15 38 8 8 15 50 | 20 7 42 | APRIL May. | 7 16 4 5 7. 4 48 | 8 2 21 7 16 6 | 20 1 8 | O APRIL | (20 12 52 4 7 14 | 21 2 45 |
| Sept. 2 7 44 2 5 12 Oct. { 1 20 29 1 14 15 | | JUNE. | 5 17 32 5 6 16 | 6 3 21 5 12 39 | | June. | 2 8 42 1 21 26 | 2 8 19 1 18 24 |
| O | | SEPT | 2 7 44 1 20 28 | 2 5 12 1 14 15 | | Aug | 29 22 54 13 17 16 | 80 2 1 18 5 10 |
| A. Feb 26 12 8 26 10 18 20 18 81 Mar 28 0 52 28 2 58 April | | Nov | 15 8 84 29 21 56 | 15 10 23 29 12 43 | | Oct Nov | 28 0 22 26 13 6 | 28 7 24 26 20 24 |
| APRIL 26 18 36 26 19 11 O (11 7 58 11 5 19) MAY - (26 2 20 26 10 4) JUNE . 24 15 4 24 23 9 JULY . 21 8 48 24 10 32 AUG 22 16 32 22 20 48 SEPT 21 5 16 21 6 26 OCT 20 18 0 20 16 23 O (4 12 22 4 10 52 Nov (19 6 44 19 2 58) DEC 18 19 28 18 14 8 APRIL 15 22 25 19 46 MAY . 15 11 9 15 11 8 JUNE . 13 23 53 JULY . 13 12 37 13 17 18 AUG 12 1 21 12 7 0 SEPT 10 14 5 10 19 36 OCT 10 2 49 10 7 22 Nov 8 15 33 8 18 55 DEC 8 4 17 8 5 37 | Α. | FEB | 26 12 8 | 26 10 13 | | FEB | 23 3 18 | 28 4 28 |
| June. 24 15 4 24 23 9 July. 24 8 48 24 10 32 Aug. 22 16 32 22 20 48 Sept. 21 5 16 21 6 26 Oct. 20 18 0 20 16 23 O | 20 13 51 | April O | 26 13 36 §11 7 58 | 26 19 11 11 5 19 | 20 6 57 | MAR APRIL | 24 16 2 28 4 46 | 24 13 24 22 22 83 |
| SEPT. 21 5 16 21 6 26 OCT. 20 18 0 20 16 23 O 4 12 22 4 10 52 Nov. 219 6 44 19 2 53 DEC. 18 19 28 18 14 8 367. G. FEB. 15 20 56 15 15 5 MAR. 17 9 41 17 4 58 APRIL 15 22 25 15 19 46 MAY 15 11 9 15 11 8 JUNE 13 23 53 JULY 13 12 37 13 17 18 AUG. 12 1 21 12 7 0 SEPT. 10 2 49 10 7 22 Nov. 8 15 33 8 18 55 DEC. 8 4 17 8 5 37 SEPT. 20 16 23 OCT. 17 9 10 17 18 24 Nov. 15 21 54 16 6 1 DEC. 15 10 88 15 20 57 370. C. THE NOV. 15 21 54 16 6 1 DEC. 15 10 88 15 20 57 370. C. THE NOV. 18 28 28 14 9 52 FEB. 12 12 7 12 20 42 MAR. 14 0 51 14 5 45 APRIL 12 13 85 12 18 40 MAY 15 11 9 15 11 8 JUNE 13 23 53 14 2 33 JULY 13 12 37 13 17 18 AUG. 12 1 21 12 7 0 SEPT. 10 14 5 10 19 36 OCT. 10 2 49 10 7 22 Nov. 8 15 33 8 18 55 DEC. 8 4 17 8 5 37 | | JUNE. JULY. | 24 15 4 24 3 48 | 24 23 9 24 10 32 | | JULY. | 21 6 14 20 18 58 | 20 20 85 20 10 40 |
| Nov. 19 6 44 19 2 58 18 14 8 Nov. 15 21 54 16 6 1 Dec. 15 10 88 15 20 57 | | Ост | 21 5 16 20 18 0 | 21 6 26 20 16 23 | | SEPT | 17 20 26 | 17 19 57 |
| G. Feb 15 20 56 15 15 5 20 19 19 Mar 17 9 41 17 4 58 April 15 22 25 15 19 46 May . 15 11 9 15 11 8 June . 13 23 53 14 2 33 July . 13 12 37 13 17 18 Aug 12 1 21 12 7 0 Sept 10 14 5 10 19 36 Oct 10 2 49 10 7 22 Nov . 8 15 33 8 18 35 Dec 8 4 17 8 5 37 C. Feb 12 12 7 12 20 42 Mar 14 0 51 14 5 45 April 12 18 85 12 18 40 May . 12 2 19 11 21 17 June . 10 15 8 10 5 87 July . 10 15 8 10 5 87 July . 10 3 47 9 15 48 Aug 28 16 81 8 4 22 C | | | • | | | Dec | 15 10 88 | |
| MAY . 15 11 9 15 11 8 JUNE . 13 23 53 14 2 33 JULY . 13 12 37 13 17 18 AUG 12 1 21 12 7 0 SEPT 10 14 5 10 19 36 OCT 10 2 49 10 7 22 Nov 8 15 33 8 18 55 DEC 8 4 17 8 5 37 MAY . 12 2 19 11 21 17 JUNE . 10 15 8 10 5 87 JULY . 10 3 47 9 15 48 Aug { 8 16 81 8 4 22 C C SEPT 7 5 15 6 19 49 OCT 6 17 59 6 18 34 Nov 5 6 48 5 8 27 | G. | Feb Mar | 15 20 56 17 9 41 | 15 15 5 17 4 58 | c. | FEB Mar | 12 12 7 14 0 51 | 12 20 42 14 5 45 |
| Aug. 12 1 21 12 7 0 Sept. 10 14 5 10 19 86 Oct. 10 2 49 10 7 22 Nov. 8 15 33 8 18 55 Dec. 8 4 17 8 5 37 Aug \{ 8 16 81 8 4 22 \\ 28 10 53 28 18 6 \\ 7 5 15 6 19 49 \\ Nov 5 6 48 5 8 27 | | May . June . | 15 11 9 13 23 53 | 15 11 8 14 2 33 | | May . June . | 12 2 19 10 15 8 | 11 21 17 10 5 87 |
| Nov 8 15 33 8 18 55 Oct 6 17 59 6 18 34 Nov 5 6 48 5 8 27 | | Aug Sept | 12 1 21 10 14 5 | 12 7 0 10 19 86 | , | C Sept. | 8 16 81 28 10 58 7 5 15 | 8 4 22 28 18 6 |
| | | Nov | 8 15 33 | 8 18 55 | | Nov | 5 6 48 | 6 18 84 5 8 27 |

| Mean Vernal Equinox. | Month. | Menn New Moon. (O Full Ecl.)(| True New Moon O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. Full Ecl.) |
|----------------------------|--------|-------------------------------------|----------------------------|----------------------------|--------|-----------------------------|---------------------------|
| A.D. 371. | | d. h. m. | d. h. m. | A.D. 374. | | d. h. m. | d. h. m. |
| В. | JAN | 3 8 11 | 3 19 48 | E. | JAN | 29 12 5 9 | 29 10 59 |
| March. | FEB. | 1 20 56 | 2 10 4 | March. | FEB. | | 28 5 2 |
| 20 18 35 | MAR | 3 9 40 | 3 21 33 | d. h. m. 20 12 1 | MAR. | | 29 22 0 |
| | APRIL | 1 22 24 | 2 6 38 | | APRIL | | 28 12 58 |
| | | (1118 | 1 14 5 | | MAY, | | 28 1 28 |
| 1 | MAY. | 30 23 52 | 30 20 52 | | June . | | 26 11 46 |
| | JUNE . | 29 12 36 | 29 4 5 | ì | JULY. | | 25 20 37 |
| | 1 | 14 6 58 | 14 13 25 | | Aug. | 24 5 13 | 24 4 58 |
| | JULY. | 29 1 20 | 28 12 52 | | SEPT. | 22 17 57 | 22 13 45 |
| | Aug. | 27 14 4 | 27 0 9 | | Oct | 22 6 41 | 21 23 35 |
| | SEPT. | 26 2 48 | 25 14 29 | | | 20 19 25 | 20 10 51 |
| | 1 | 25 15 32 | 25 7 48 | | Nov | 20 19 25 | 19 23 43 |
| | Oct. | | 21 2 53 | | Dec | 20 8 9 | 19 25 45 |
| | Nov. | 24 4 16 | | | | | |
| | DEC | 23 17 0 | 23 22 24 | 375. | JAN | 18 20 54 | 18 14 7 |
| | 0 | 7 11 22 | 7 8 12 | ъ. | FEB | 17 9 38 | 17 5 46 |
| 372. | JAN | 22 5 44 | 22 16 36 | 20 17 50 | MAR | 18 22 22 | 18 22 9 |
| A.G. | FEB | 20 18 28 | 21. 8 13 | | APRIL | 17 11 6 | 17 14 33 |
| 20 0 24 | MAR | 21 7 12 | 21 20 45 | | 0 | 5 2 5 28 | 2 5 33 |
| | APRIL | 19 19 56 | 20 6 28 | | MAY . | 16 23 50 | 17 6 7 |
| | MAY . | 19 8 40 | 19 14 9 | | JUNE. | 15 12 34 | 15 20 11 |
| | JUNE. | 17 21 24 | 17 20 52 | | July. | 15 1 18 | 15 .8 34 |
| | 0 | (2 15 46 | 2 15 58 | | Aug. | 13 14 2 | 13 19 31 |
| | JULY. | 17 10 8 | 17 3 44 | | SEPT | 12 2 46 | 12 5 39 |
| | Aug | 15 22 52 | 15 11 51 | | Oct | (11 15 30 | 11 15 39 |
| | SEPT | 14 11 86 | 13 22 7 | | 0 | 26 9 52 | 26 5 9 |
| | Ocr | 14 0 20 | 13 11 13 | | Nov. | 10 4 14 | 10 1 58 |
| | Nov. | 12 13 4 | 12 3 13 | | DEC. | 9 16 58 | 9 12 53 |
| | DEC | (12 1 48 | 11 21 30 | | | | |
| | 0 | 26 20 10 | 26 28 55 | 376. | JAN. | 8 5 43 | 8 0 25 |
| | | | | С.В. | FEB. | 6 18 27 | 6 12 39 |
| 373. | JAN | 10 14 83 | 10 16 49 | 19 23 89 | MAR. | 7 7 11 | 7 1 44 |
| | FEB. | 9 3 17 | 9 11 80 | 10 20 00 | APRIL | (5 19 55 | 5 15 46 |
| 20 6 12 | | 10 16 1 | 11 4 8 | | APRIL | 20 14 17 | 20 22 36 |
| | APRIL | 9 4 45 | 9 17 57 | | MAY . | 5 8 39 | 5 6 43 |
| | MAY . | 8 17 20 | 9 4 52 | | JUNE . | 1 | 3 22 7 |
| | June. | 5 7 6 13 | 7 13 31 | | 1 | 1 | § 13 19 |
| | 0 | 22 0 35 | 21 16 54 | | July . | 1 22 51 | 2 3 47 |
| | July. | 6 18 57 | 6 20 56 | | Aug. | 81 11 85 | |
| | Aug | 5 7 41 | 5 4 12 | | 0 | | 30 5 40 |
| | SEPT | 8 20 25 | 8 12 19 | | SEPT. | | |
| | Ocr | 8 9 9 | 2 22 7 | | 0 | 14 18 41 | |
| | Nov | 1 21 53 | | | Ocr. | . 29 13 3 | |
| 1 | | 1 10 37 | 1 0 83 | | Nov. | | 28 4 38 |
| | DEC. O | | | | DEC. | . 27 14 31 | 27 15 30 |
| | | (80 28 21 | 30 17 6 | | 1 | | 411 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 377. | | d. h. m. | d. h. m. | A.D. 380. | | d. h. m. | d. h. m. |
| A | JAN | 26 3 15 | 26 2 2 | E.D. | JAN | 23 18 25 | 24 7 25 |
| d. $h.$ $m.$ | FEB | 24 15 59 | 24 12 25 | | 0 | (7 12 47 | 7 6 42 |
| 20 5 28 | MAR | 26 4 43 | 25 23 4 | March. | FEB | 22 7 9 | 22 20 11 |
| | - 0 | (9 23 5 | 10 12 16 | d. h. m. 19 22 54 | MAR. | 22 19 58 | 23 6 17 |
| | APRIL | 24 17 27 | 24 10 37 | 10 22 01 | APRIL | 21 8 37 | 21 14 18 |
| | MAY. | 24 6 11 | 23 23 32 | | MAY. | 20 21 21 | 20 21 12 |
| | JUNE . | 22 18 55 | 22 13 57 | | JUNE . | 19 10 5 | 19 4 2 |
| | July. | 22 7 39 | 22 5 33 | | JULY. | 18 22 49 | _ |
| | Aug. | 20 20 23 | 20 21 39 | | | | 18 11 55 |
| | SEPT. | 19 9 7 | | | 0 | 2 17 11 | 2 23 18 |
| | | | 19 13 31 | | Aug | (17 11 88 | 16 21 52 |
| | 0 | 4 3 29 | 3 14 49 | | SEPT. | 16 0 17 | 15 10 44 |
| | Ост. | (18 21 51 | 19 4 32 | | Ocr | 15 13 1 | 15 2 41 |
| | Nov. | 17 10 35 | 17 18 21 | | Nov | 14 1 45 | 13 21 6 |
| | DEC | 16 23 19 | 17 6 51 | | DEC | 13 14 29 | 18 16 41 |
| 378. | JAN | 15 12 4 | 15 18 1 | 381. | JAN | ∫12 3 14 | 12 11 44 |
| G. | FEB | 14 0 48 | 14 8 56 | с. | 0 | 26 21 36 | 26 18 5 |
| 20 11 17 | MAR. | 15 13 32 | 15 12 57 | | FEB | 10 15 58 | 11 4 42 |
| 20 11 11 | APRIL | 14 2 16 | 13 21 41 | 20 4 43 | MAR | 12 4 42 | 12 18 48 |
| | MAY . | | | | APRIL | 10 17 26 | 11 5 41 |
| | JUNE . | 1 | 13 7 1 | | MAY . | 10 6 10 | 10 14 18 |
| | JULY. | 12 3 44 11 16 28 | 11 17 48 | | JUNE. | 8 18 54 | 8 21 17 |
| | Aug. | | 11 6 43 | | JULY. | 8 7 38 | 8 8 59 |
| | | | 9 21 54 | | Aug | 6 20 22 | 6 11 26 |
| | SEPT | 8 17 56 | 8 14 49 | | SEPT | 5 9 6 | 4 20 88 |
| | Oct | 8 6 40 | 8 8 33 | | Ост | 4 21 50 | 4 8 21 |
| - | Nov | 6 19 24 | 7 1 57 | | Nov | 8 10 84 | 2 22 58 |
| | DEC | 688 | 6 17 58 | | DEC | 2 23 18 | 2 16 12 |
| 379. | JAN | 4 20 58 | 5 8 1 | 382. | JAN | 5 1 12 2 | 1 11 5 |
| F. | FEB | (3 9 37 | 3 19 47 | в. | JAM. | 181 0 46 | 81 6 8 |
| | 0 | 18 3 59 | 18 2 26 | | FEB | ••• | |
| 20 17 5 | MAR. | 4 22 21 | 5 5 32 | 20 10 32 | MAR | § 1 13 31 | 1 28 50 |
| | APRIL | 3 11 5 | 3 13 46 | | ALAIL. | (81 2 15 | 81 15 2 |
| | MAY. | 2 23 49 | 2 21 13 | | APRIL | 29 14 59 | 80 8 19 |
| | June . | 1 12 33 | 1 4 56 | | MAY . | 29 8 43 | 29 18 2 |
| | | (1 1 17 | 30 13 57 | | 0 | (12 22 5 | 12 13 22 |
| | JULY. | 30 14 1 | 30 1 14 | | JUNE . | 27 16 27 | 27 21 1 |
| | 0 | (14 8 23 | 14 12 26 | | July . | 27 5 11 | 27 4 21 |
| | Arg | 29 2 45 | | | Aug | 25 17 55 | 25 12 6 |
| | SEPT | 27 15 29 | 28 15 22 27 8 11 | | SEPT | 24 6 89 | 23 21 8 |
| | Oct | 27 15 29 | | , | Oct | 28 19 28 | 28 8 5 |
| | Nov. | 25 16 57 | | | Nov | 22 8 7 | 21 21 19 |
| | DEC. | 25 5 41 | 25 21 53 | | 0 | (7 2 29 | 7 12 2 |
| | LEU. | 40 0 41 | 25 15 48 | | DEC. | 21 20 51 | 21 12 46 |
| I | | | | | | | 10 |

| Moan Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|--|--|--------------------------------------|--|--|---|
| A.D. 383. A. March. d. h. m. 20 16 21 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | $\begin{array}{c} d.\ h.\ m. \\ 20 & 9 & 85 \\ 18 & 22 & 19 \\ 20 & 11 & 8 \\ 18 & 28 & 47 \\ 18 & 12 & 81 \\ \left\{ \begin{array}{ccc} 2 & 6 & 58 \\ 17 & 1 & 15 \\ 16 & 18 & 59 \\ 15 & 2 & 43 \\ 18 & 15 & 27 \\ 18 & 4 & 11 \\ \left\{ \begin{array}{cccc} 11 & 16 & 55 \\ 23 & 11 & 17 \\ 11 & 5 & 89 \end{array} \right. \end{array}$ | d. h. m. 20 5 54 18 28 47 20 17 15 19 9 13 18 22 56 1 21 51 17 10 22 16 20 0 15 4 41 18 18 28 12 22 48 11 9 26 26 18 34 10 21 29 | A.D. 386. D. March. d. h. m. 20 9 47 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEFT O OCT NOV DEC | d. h. m. 17 0 45 15 18 29 {17 2 13 81 20 35 15 14 57 15 3 41 13 16 25 13 5 9 11 17 58 {10 6 37 25 0 59 9 19 21 8 8 5 7 20 49 | d. h. m. 17 1 12 15 11 24 16 21 35 { 1 10 11 15 8 21 14 20 17 13 9 49 18 0 55 11 17 0 10 9 20 24 13 20 10 1 9 8 15 51 8 5 10 |
| 384. g.f. 19 22 10 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV DEC | 9 18 24 8 7 8 8 19 52 7 8 36 6 21 20 21 15 42 5 10 4 4 22 48 8 11 32 2 0 16 {1 18 0 81 1 44 {14 20 6 29 14 28 29 8 12 | 9 10 58 8 1 46 8 17 84 7 9 50 7 1 47 21 12 48 5 16 39 5 6 1 8 17 50 2 4 85 1 14 50 81 1 10 14 18 45 29 11 51 28 28 0 | 387. c. 20 15 86 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | $\begin{array}{c} 6 & 9 & 84 \\ 4 & 22 & 18 \\ 6 & 11 & 2 \\ 21 & 5 & 24 \\ 4 & 28 & 46 \\ 4 & 12 & 30 \\ 8 & 1 & 14 \\ 2 & 13 & 58 \\ 1 & 2 & 42 \\ 30 & 15 & 26 \\ 14 & 9 & 48 \\ 29 & 4 & 10 \\ 28 & 16 & 54 \\ 27 & 5 & 38 \\ 26 & 18 & 22 \\ \end{array}$ | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ |
| 385. E. 20 8 58 | JAN FED MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 27 15 56 26 4 41 27 17 25 26 6 9 25 18 58 24 7 87 28 20 21 22 9 5 20 21 49 20 10 88 18 28 17 18 12 1 | 27 10 40 25 28 1 27 12 16 26 2 88 25 17 88 24 9 2 24 0 8 22 14 18 21 8 81 20 15 51 19 3 29 18 14 86 | 388. n.a. 19 21 25 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | $ \begin{cases} 2 & 18 & 86 \\ 17 & 12 & 58 \\ 17 & 1 & 42 \end{cases} $ | 18 11 31 3 2 21 8 3 17 8 10 2 16 21 11 3 15 16 22 |

| Mean | 35 11 | Menn New | True New | Mean | | Menn New | True New |
|--------------------|------------|--|------------------------|--------------------|--------|------------------------|------------------------|
| Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. (O Full Ecl.) | Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. (O Full Ecl.) |
| A.D. 389. | | d. h. m. | d. h. m. | A.D. 392. | | d. h. m. | d. h. m. |
| G. March. | JAN | 13 15 55 | 14 4 3 | March. | JAN | 11 7 5 | 11 1 12 |
| d. h. m. | FEB | 12 4 39 | 12 18 15 | d. h. m. | FEB | 9 19 49 | 9 18 37 |
| 20 3 13 | MAR | 13 17 23 | 14 ,5 31 | 19 20 40 | MAR | 10 8 33 | 10 12 14 |
| | APRIL | 12 6 7 | 12 14 21 | | APRIL | 8 21 17 | 9 4 55 |
| · | MAY. | 11 18 51 | 11 21 36 | | MAY . | 8 10 1 | 8 19 45 |
| | June . | 10 7 85 | 10 4 17 | | JUNE. | 6 22 45 | 7 8 22 |
| | JULY . | 9 20 19 | 9 11 30 | ľ | JULY. | 6 11 29 | 6 18 57 |
| | Aug | 8 9 3 | 7 20 20 | | Aug | 5 0 13 | 5 4 13 |
| | SEPT | 6 21 47 | 6 7 45 | | SEPT | 8 12 57 | 3 13 1 |
| | Oct | 6 10 31 | 5 22 15 | | Oct | 3 1 41 | 2 22 13 |
| | Nov | 4 23 15 | 4 15 33 | | Nov | 1 14 25 | ſ 1 8 21 |
| İ | Dec | 4 11 59 | 4 10 50 | | DEC | 5139 | (30 19 42 |
| | | | | | DEC | 30 15 53 | 30 8 20 |
| 390. | JAN | 3 0 44 | 3 6 21 | | | | |
| F. | 0 | 17 19 6 | 17 16 58 | 393. | JAN | 29 4 38 | 28 22 17 |
| | FEB | 1 13 28 | 2 0 28 | в. | FEB. | 27 17 22 | 27 13 21 |
| 20 9 2 | MAR | 3 2 12 | 3 15 57 | 20 2 29 | Mar. | 29 6 6 | 29 5 11 |
| 1 | APRIL | 1 14 56 | 2 4 20 | | APRIL | 27 18 50 | 27 21 12 |
| | MAY . | § 1 3 40 | 1 13 55 | | 0 | (12 13 12 | 12 13 6 |
| | | 30 16 24 | 30 21 34 | · | MAY. | 27 7 84 | 27 12 39 |
| | JUNE . | 29 5 8 | 29 4 21 | | June . | 25 20 18 | 26 2 53 |
| | 0 | § 13 23 30 | 13 22 30 | | JULY. | 25 9 2 | 25 15 40 |
| | JULY. | 28 17 52 | 28 11 23 | | Aug | 23 21 46 | 24 3 9 |
| | Aug | 27 6 36 | 26 19 43 | | SEPT | 22 10 30 | 22 13 50 |
| | SEPT | 25 19 20 | 25 6 12 | | Ocr | 21 23 14 | 22 0 17 |
| 1 | Oct | 25 8 4 | 24 19 25 | | 0 | (5 17 86 | 5 13 0 |
| | Nov | 23 20 48 | 23 11 24 | | Nov. | 20 11 58 | 20 10 55 |
| 1 | DEC | 23 9 32 | 23 5 33 | | DEC | 20 0 42 | 19 21 50 |
| | | 7 3 54 | 7 0 40 | | | | |
| 201 | 20 | $\begin{cases} 7 & 3 & 54 \\ 21 & 22 & 16 \end{cases}$ | 7 8 48 22 0 33 | 394. | JAN | 18 13 26 | 18 9 5 |
| 391. E. | JAN | 20 11 0 | 22 0 33 20 18 57 | A. | FEB | 17 2 10 | 16 20 48 |
| | FEB | 21 23 44 | 20 10 57 | 20 8 18 | MAR. | 18 14 54 | 18 9 15 |
| 20 14 51 | MAR | 20 12 28 | 21 1 6 | 20 0 10 | APRIL | 17 3 38 | 16 22 45 |
| | APRIL | 20 12 28 | 20 12 1 | | 0 | (122 0 | 2 6 8 |
| | MAY. | 18 13 56 | 18 20 48 | | MAY. | 16 16 22 | 16 13 16 |
| 1 | June . | (3 8 18 | 2 23 31 | 1 | June. | 15 5 6 | 15 4 82 |
| | -0 | 18 2 40 | 18 4 28 | | JULY. | 14 17 50 | 14 19 55 |
| | JULY. | 16 15 24 | 16 12 3 | | Aug. | 13 6 84 | 13 10 50 |
| | AUG | 15 4 8 | 14 20 30 | | SEPT. | 11 19 18 | 12 0 52 |
| | | 14 16 52 | 14 6 34 | | Ост. | (11 8 2 | 11 13 55 |
| | Oct Nov | 13 5 36 | 12 18 41 | | 0 | 26 2 24 | 25 14 81 |
| | DEC. | (12 18 20 | 12 18 41 | , | Nov. | 9 20 46 | 10 2 7 |
| | DEC. | 27 12 42 | 27 23 0 | | DEC. | 9 9 80 | 9 13 35 |
| | | | 2. 20 0 | В | | 500 | 20 00 |
| <u> </u> | <u> </u> | <u> </u> | | | 1 | 1 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|------------------------------------|----------------------------|--------|------------------------------|------------------------------|
| A.D. 395. | | d. h. m. | d. h. m. | A.D. 398. | | d. h. m. | d. h. m. |
| G. | JAN | 7 22 14 | 8 0 23 | c. | JAN | 4 13 25 | 500 |
| March. $d. h. m.$ | FEB | 6 10 59 | 6 10 37 | 3.5 | FEB | (329 | 3 15 35 |
| 20 14 6 | MAR | 7 23 43 | 7 20 30 | March. $d. h. m.$ | 0 | 17 20 31 | 17 14 42 |
| | APRIL | c 6 12 27 | 6 6 36 | 20 7 33 | Mar. | 4 14 53 | 5 4 13 |
| | 0 | 21 6 49 | 21 19 36 | | APRIL | 3 3 37 | 3 14 4 |
| 1 | MAY . | 6 1 11 | 5 17 38 | | MAY. | 2 16 21 | 2 21 54 |
| | June . | 4 13 55 | 4 6 11 | | LUAI . | (1 5 5 | 1 4 41 |
| | July. | 4 2 39 | 3 20 28 | | JUNE . | 30 17 49 | |
| | | 2 15 23 | 2 12 14 | | T | | 30 11 28 |
| | Aug | | | | JULY. | 30 6 33 | 29 19 25 |
| Y | SEPT | { 1 4 7 | 1 4 47 | | . 0 | {14 0 55 | 14 6 32 |
| | | (30 16 51 | 30 21 13 | | Aug | (28 19 17 | 28 5 31 |
| | 0 | $\begin{cases} 15 & 11 & 13 \end{cases}$ | 14 23 12 | | SEPT | 27 8 1 | 26 18 31 |
| | Ocr | \30 5 85 | 30 12 48 | Ì | Ocr | 26 20 45 | 26 10 35 |
| 1 | Nov | 28 18 19 | 29 3 2 | | Nov | 25 9 29 | 25 5 4 |
| | DEC | 28 7 3 | 28 15 41 | | Dec | 24 22 13 | 25 0 38 |
| | | | | 399. | T. 35 | 23 10 58 | 23 19 35 |
| 396. | JAN | 26 19 48 | 27 2 44 | В. | JAN | | |
| F.E. | FEB | 25 8 32 | 25 12 19 | | 0 | 7. 5 20 | 7 2 35 |
| 19 19 55 | MAR. | 25 21 16 | 25 20 55 | 00 10 00 | FEB | 21 23 42 | 22 12 26 |
| 20 20 00 | APRIL | 24 10 0 | 24 5 13 | 20 13 22 | MAR. | 23 12 26 | 24 2 17 |
| | MAY. | 23 22 44 | 28 14 9 | | APRIL | 22 1 10 | 22 13 8 |
| | | | | | MAY. | 21 13 54 | 21 21 37 |
| | June. | 22 11 28 | | | JUNE. | 20 2 38 | 20 4 43 |
| | July . | 22 0 12 | 21 13 32 | | July . | 19 15 22 | 19 11 84 |
| | Aug | 20 12 56 | 20 4 50 | | Aug | 18 4 6 | 17 19 15 |
| | SEPT | 19 1 40 | 18 22 7 | | SEPT | 16 16 50 | 16 4 41 |
| | Oct | 18 14 24 | 18 16 18 | | Oct | 16 5 84 | 15 16 85 |
| | Nov | 17 3 8 | 17 10 8 | • | Nov | 14 18 18 | 14 7 14 |
| 1 | DEC | 16 15 52 | 17 2 28 | | DEC | 14 7 2 | 14 0 21 |
| | | 1 | | 400 | Т | 12 19 46 | 10 10 57 |
| 397. | JAN | 15 4 86 | 15 16 83 | 400. | JAN | 1 | 12 18 57 |
| D. | FEB | (13 17 20 | 14 4 11 | | FEB | 11 8 80 | 11 13 41 |
| | 0 | 28 11 42 | 28 9 54 | 19 19 11 | MAR. | 11 21 14 | 12 7 7 |
| 20 1 44 | MAR. | 15 6 4 | 15 13 38 | | APRIL | 10 9 58 | 10 22 9 |
| | APRIL | 13 18 48 | 13 21 81 | | MAY . | 9 22 42 | 10 10 25 |
| | MAY. | 13 7 82 | 18 4 42 | l | JUNE . | 8 11 26 | |
| | JUNE . | 11 20 16 | 11 12 11 | | 0 | 23 5 48 | |
| | _ | 11 9 0 | | | JULY . | 8 0 10 | 8 4 26 |
| | JULY. | | | | Aug | 6 12 54 | 6 12 5 |
| } | Aug | 9 21 44 | 9 8 25 | | SEPT | 5 1 38 | 4 20 6 |
| | 0 | (21 16 6 | 24 20 11 | | Ocr | 4 14 22 | 4 5 82 |
| | SEPT | 8 10 28 | 7 22 41 | | Nov | 3 3 6 | 2 16 41 |
| | Ocr | 7 28 12 | 7 15 45 | | | 2 15 50 | 2 5 58 |
| | Nov | 6 11 56 | 6 10 89 | | DEC. O | 17 10 12 | 17 20 89 |
| | DEC | 6 0 40 | 6 5 56 | | 1 | (| 81 21 8 |
| | | L | | 0.00 | 1 | | 1. |

887

| Mean Vernal Equinos. | Month. | | True New Minus. | Mean Vertal Reprince | Month | M | n Now reco all Mal) | True New Moves in Pull Rel, |
|----------------------------|--------|---------------------|-----------------|----------------------------|--------------------|-----------|----------------------------|-----------------------------------|
| A.D. 401. | 4 | d. h. m. | d. h. m. | A.D. 404. | 1 | đ | A. 100 | d A. m. |
| y , | T.m | f 1 4 86 | *** | March. | Jan | - | 40 274 | 24 9 65 |
| | JAM | 120 17 19 | an in in | at A. en. | Fon, , | 1287 | 21 10 | 201 19 42 |
| March. | Fun | *** | *** | 19 14 39 | Man . | 17 | \$ 57 | 27 5 21 |
| d. h, m. 20 0 59 | 11 | 11 8 8 | 1 7 8 | | i 1 | 111 | 4 19 | 11 17 28 |
| 30 0 90 | MAH. | 1 181 1H 47 | 81 0 12 | | Arnii. | 125 | 22 41 | 25 15 81 |
| | Arnit. | 20 7 111 | 29 45 57 | | Max . | | 11 25 | 25 B 6 |
| | MAY . | 294 291 15 | 201 5 44 | | Jenn. | 24 | 0.5 | 25 16 24 |
| | () | (12 14 87 | 12 5 0 | | Jus . | 21 | 12 ta | 20 7 84 |
| | Jima. | 127 H to | 27 17 24 | | Ata . | 22 | 1 37 | 21 28 tm |
| | July . | का या सा | 27 8 21 | | Harr. | 281 | 14 21 | 20 10 48 |
| | Aro | 25 10 27 | 25 12 14 | | | 1 % | # 43 | 4 21 41 |
| | Hart | 20 20 11 | 28 21 48 | | Ory. | 1 28 1 | 28 to | 20 0 10 |
| | Ost, , | 28 11 66 | 23 7 81 | | Not. | 111 | 15 49 | 19 0 22 |
| į | Nov | 22 0 80 | 21 1n 19 | | Dac | 16 | 4 33 | 14 18 57 |
| | 0 | 1 6 19 1 | 7 8 45 | 404 | 1 | * 44 | . 4 . 3 | |
| | Dan. | 121 18 28 | 81 4 14 | 408. | Jan . | 10 | | 17 1 46 |
| 402. | 1 | 20 9 7 | 19 19 20 | | 1 | 15 | #4 1 | 15 11 64 |
| TUZ. | JAN | 1 | 10 10 20 | 20 0 15 | Man. | | 19 45 | 16 (31) 43 |
| 20 6 48 | Fan. | 18 14 51 20 8 85 | 20 0 47 | | () | | 18 7 | ni 21 87 |
| 20 0 30 | MAR. | 1s 16 10 | 18 16 34 | | Arnit | 3.0 | 7 20 | 10 4 61 |
| | Arnit | | | 1 | May . | | a) la | 14 10 9 |
| | May . | 18 5 8 | 18 8 15 | | Jean | 10 | # 63° | 12 23 344 |
| | Junn. | 16 17 47 | | | Jerr. | | 21 41 | 13 10 13 |
| | | | 16 28 12 | 4 | Aru. | | to za | 11 0 21 |
| | July . | 16 6 B1 | 16 12 54 | | Hary. | 9 | - | 0 16 14 |
| | Harr. | 18 7 50 | | 1 | () | | 17 A1 | 21 18 18 |
| | Oct. | 12 20 48 | 18 12 82 | 1 | (hy. , | | i ta | u 10 67 |
| | Nov. | | 12 21 19 | 4 | Nov. | - | () (37 | 4 6 (2) |
| | 0 | 11 9 27 | 11 10 0 | 1 | Dex | 7 | 19 51 | 3 37 47 |
| | Der. | 121 8 49 | 26 2 40 | 408. | Jan | - | 2 6 | 6 14 8 |
| | | 10 22 11 | 10 20 49 | 4, | Fon . | 4 | 4 (4) | 5 2 14 |
| 403. | JAN. , | 9 10 66 | 9 7 40 | 20 6 4 | Man. | 1 0 | B 54 | 0 13 14 |
| D. | Fun | 7 28 40 | 7 10 2 | ē | C | 1 an | es to | 20 21 47 |
| 20 12 87 | MAR. | 0 12 94 | D 6 40 | 1 | Areit | 4 | 16 14 | 4 21 40 |
| | Armil | HIH | 7 19 27 | , in the second | May . | . 4 | 6 9 | 4 4 65 |
| | MAY . | 7 18 64 | 7 9 14 | 1 | Jess . | 1 | 17 40 | 2 12 1 |
| | Juna. | 6 2 36 | 6 0 8 | | | 1 3 | 6 30 | 1 90 9 |
| | Juny . | 5 15 20 | 8 15 20 | | July . | laı | 19 14 | A1 6 8 |
| | Avo | 4 4 4 | 4 6 54 | 2 | Ara. | | | 30 la 51 |
| | Вирт | 9 | | | 53 | | 2 20 | 14 5 10 |
| | Oct. | 1 2 5 32 | 2 11 32 | | Mart. | 1 | 20 43 | 29 10 41 |
| | | 181 18 16 | 1 1 0 24 | | Chy, | 2 | 9 200 | 24 4 56 |
| | Nov | 80 7 0 | 180 19 99 | 1 | New. | (| - | |
| | Dac. | | 20 25 84 | 3 | 3 6.444.8 4 | 5 March 1 | 10 10 | ¥7 (1 10) |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|---|------------------------------------|----------------------------|--------|---|------------------------------------|
| A.D. 407. | | d. h. m. | d. h. m. | A.D. 410. | | d. h. m. | d. h. m. |
| F. | JAN | 24 23 39 | 25 12 12 | в. | 0 | (62027 | 7 7 40 |
| March. $d. h. m.$ | FEB | 23 12 23 | 24 2 16 | | JAN | 21 14 49 | 21 9 15 |
| 20 11 52 | MAR | 25 1 7 | 25 13 21 | March. $d. h. m.$ | FEB | 20 3 33 | 20 2 10 |
| | APRIL | 23 13 51 | 23 22 0 | 20 5 19 | MAR | 21 16 17 | 21 19 17 |
| | MAY . | 23 2 35 | 23 5 6 | | APRIL | 20 5 1 | 20 11 39 |
| | JUNE . | 21 15 19 | 21 11 43 | | MAY . | 19 17 45 | 20 2 7 |
| | JULY. | 21 4 3 | 20 19 0 | | JUNE . | 18 6 29 | 18 15 14 |
| | Aug | 19 16 47 | 19 3 58 | | JULY . | 17 19 13 | 18 2 11 |
| | SEPT | 18 5 31 | 17 15 32 | | Aug | 16 7 57 | 16 11 53 |
| | Oct | 17 18 15 | 17 6 10 | | SEPT | 14 20 41 | 14 21 12 |
| | Nov | 16 6 59 | 15 23 36 | | Oct | 14 9 25 | 14 6 49 |
| | DEC | 15 19 43 | 15 18 48 | | Nov | 12 22 9 | 12 17 13 |
| | | | | | DEC | 12 10 53 | 12 4 34 |
| 408. | JAN | (14 8 27 | 14 14 12 | | | | |
| E.D. | 0 | 29 2 49 | 29 1 36 | 411. | JAN | 10 23 37 | 10 16 56 |
| | FEB | 12 21 11 | 13 8 10 | Α. | FEB | 9 12 21 | 9 6 21 |
| 19 17 41 | MAR. | 13 9 55 | 13 23 30 | 20 11 8 | MAR | 11 1 5 | 10 20 47 |
| | APRIL | 11 22 39 | 12 11 45 | | APRIL | 9 13 49 | 9 12 4 |
| | MAY. | 11 11 23 | 11 21 16 | | MAY . | 9 2 33 | 9 8 43 |
| | June . | 10 0 7 | 10 4 56 | | 0 | 23 20 55 | 23 20 34 |
| | JULY. | (9 12 51 | 9 11 58 | | JUNE . | 7 15 17 | 7 19 6 |
| | 0 | 24 7 13 | 24 5 7 | | JULY . | 7 4 1 | 7 9 35 |
| | Aug. | 8 1 35 | 7 19 8 | | Aug | 5 16 45 | 5 22 49 |
| | SEPT. | 6 14 19 | 6 3 42 | | SEPT | 4 5 29 | 4 10 53 |
| | Oct. | 6 3 3 | 5 14 25 | | Oct | 3 18 13 | 3 22 8 |
| | Nov. | 4 15 47 | 4 8 44 | | Nov | ſ 2 6 57 | 2 9 2 |
| | DEC | 4 4 31 | 8 19 39 | | 0 | 17 1 19 | 16 20 53 |
| | | | | | DEC | ſ 1 19 4 1 | 1 19 53 |
| 409. | T | / 0 17 16 | 0.10.00 | | DEC | 81 8 25 | 31 6 45 |
| -+0 <i>0</i> . | Jan . | $\left\{ \begin{array}{cccc} 2 & 17 & 16 \\ 17 & 11 & 38 \end{array} \right.$ | 2 13 32 17 17 36 | | _ | | |
| | FEB. | 1 6 0 | 1 8 15 | 412. G.F. | JAN | 29 21 10 | 29 17 40 |
| 19 23 30 | MAR. | 2 18 44 | 8 2 19 | | FEB | 28 9 54 | 28 4 50 |
| 10 20 00 | MAR. | (1 7 28 | 1 18 31 | 19 16 57 | MAR | 28 22 38 | 28 16 42 |
| | APRIL | 30 20 12 | | | APRIL | 27 11 22 | 27 5 38 |
| | MAY . | 30 8 56 | 1 8 7 30 19 8 | | | $\begin{cases} 12 & 5 & 44 \\ 27 & 0 & 6 \end{cases}$ | 12 13 39 |
| | JUNE. | 28 21 40 | 29 4 7 | | MAY . | | 26 19 48 |
| | | (13 16 2 | 18 6 15 | | JUNE . | 25 12 50 | 25 10 59 |
| | JULY. | 28 10 24 | 28 12 4 | | JULY. | 25 1 34 | 25 2 37 |
| | Aug. | 26 23 8 | 26 20 2 | | Aug. | 23 14 18 22 3 2 | 23 18 0 22 8 38 |
| | SEPT. | 25 11 52 | 25 4 51 | | SEPT. | | |
| | OCT | 25 11 32 | 24 15 11 | | Oct | 21 15 46 | 21 22 16 |
| | Nov. | 23 13 20 | 23 3 21 | | Non | 5 10 8 | 4 22 41 |
| | DEC. | 23 2 4 | 22 17 28 | | Nov | 20 4 30 | 20 10 54 19 22 31 |
| | DEC | AU 4 4 | 22 11 20 | | DEC | 19 17 14 | T9 ZZ 9T |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|--|---|---|--|--|--|--|
| A.D. 413. E. March. d. h. m. 19 22 45 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 18 5 58 16 18 42 18 7 27 16 20 11 { 1 14 33 16 8 55 14 21 39 14 10 28 12 23 7 11 11 51 { 11 0 35 25 18 57 9 13 19 9 2 3 | d. h. m. 18 9 12 16 19 3 18 4 28 16 14 3 2 2 47 16 0 36 14 12 51 14 3 6 12 19 3 11 12 1 11 4 59 25 7 42 9 21 6 9 11 42 | A.D. 416. B.A. March. d. h. m. 19 16 12 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | d. h. m. 15 21 8 {14 9 52 29 4 14 14 22 36 13 11 20 13 0 4 11 12 48 11 1 32 { 9 14 16 24 8 38 8 3 0 7 15 44 6 4 28 5 17 12 | d. h. m. 16 8 4 14 23 36 28 22 35 15 12 8 13 21 44 13 5 25 11 12 6 10 18 57 9 8 1 24 18 51 7 18 17 7 2 26 5 18 35 5 18 3 |
| 414. D. 20 4 84 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 7 14 47 6 3 81 7 16 15 6 4 59 5 17 48 4 6 27 3 19 11 { 2 7 55 81 20 39 30 9 23 29 22 7 28 10 51 27 23 35 | 8 0 27 6 11 18 7 20 34 6 4 44 5 12 88 8 21 15 3 7 36 1 20 26 81 11 55 30 5 30 30 0 6 28 18 19 28 10 53 | 417. g. 19 22 1 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | $ \begin{array}{c} 4 & 5 & 57 \\ 2 & 18 & 41 \\ 17 & 18 & 8 \\ 4 & 7 & 25 \\ 2 & 20 & 9 \\ 2 & 8 & 58 \\ 81 & 21 & 37 \\ 80 & 10 & 21 \\ 29 & 28 & 5 \\ 28 & 11 & 49 \\ 27 & 0 & 83 \\ 26 & 18 & 17 \\ 25 & 2 & 1 \\ 24 & 14 & 45 \\ \end{array} $ | 4 8 83 8 8 19 17 10 57 4 19 58 8 9 41 2 20 28 { 1 4 56 80 12 9 29 19 14 28 8 12 26 12 58 26 0 56 21 15 84 24 8 29 |
| 415. c. 20 10 23 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 26 12 20 25 1 4 {11 19 26 26 13 48 25 2 32 24 15 16 23 4 0 22 16 44 21 5 28 { 4 23 50 19 18 12 19 6 56 17 19 40 17 .8 24 | 27 1 0 25 12 28 11 17 12 26 21 37 25 5 12 24 12 9 22 19 29 22 4 28 20 15 46 5 4 5 19 6 10 18 23 25 17 18 33 17 13 59 | 418. F. 20 3 50 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT Nov DEC | 28 8 80 21 16 14 28 4 58 21 17 42 21 6 26 19 19 10 19 7 54 17 20 88 16 9 22 15 22 6 14 10 50 {18 28 84 28 17 56 | 28 2 47 21 21 8 28 14 14 22 5 8 21 17 25 20 8 25 19 11 54 17 19 56 16 4 26 15 14 6 14 1 24 18 14 29 29 5 14 |

| Mean Vernal Equinox, | Month, | Mean Now Mean. (Full Ect.) | True New Moon, () Full Kel.) | Mean Vernal Equinox. | Month. | Mean New Moon, (O Full Eol.) | True New Moon. |
|--|--------------|-----------------------------|------------------------------------|----------------------------|------------------|--|---------------------|
| A.D. 419. | * 11 | d. h. m. | d. h. m. | A.D. 422. | k 601 - 31 160 | d. h. m. | d. h. m. |
| March, | JAN, , | 12 12 18 | 12 5 17 | March. | JAN | 9 8 28 | 9 8 24 |
| d. h. m. 29 9 39 | Fan. | 11 1 2 | 10 21 28 | d. h. m. | Fra. | 7 16 12 | 7 18 80 |
| m'' 19 (3*1 | Ман Аган. | 12 18 46 11 2 80 | 12 14 20 11 7 0 | 20 8 6 | MAR. | 9 4 56 | 9 8 51 |
| | MAY . | 10 15 14 | 10 22 85 | | Arat. | $ \left\{ \begin{array}{cccc} 7 & 17 & 40 \\ 22 & 12 & 2 \end{array} \right. $ | 7 12 59 28 0 85 |
| | Junn. | 0 8 58 | 9 12 27 | | MAY . | 7 6 24 | 6 22 44 |
| | ij | (2) 22 20 | 23 12 10 | | Junk . | 5 19 8 | 5 9 58 |
| , | Jun. | H 16 42 | 9 0 25 | | July . | 5 7 52 | 4 28 8 |
| | Avo | 7 6 26 | 7 10 58 | | Aug. | 8 20 86 | 8 14 15 |
| | Hars. | 5 18 10 | 5 20 88 | | SEPT | 2 9 20 | 2 6 59 |
| | Chr. | N 6 54 | 5 6 11 | | | 1 22 4 | 2 0 20 |
| | Nov. | H 19 HH | 8 16 18 | | Ocr. C | 16 16 26 | 16 8 9 |
| | Dur. | H H 22 | 8 8 18 | | | (81 10 48 | 81 17 16 |
| 1 | r) | 1118 2 44 | 18 10 65 | | Nov. | 29 28 82 | 80 8 52 |
| | | | | | DEC. | 29 12 16 | 29 22 89 |
| 420. | JAN | 1 21 7 | 1 14 59 | 423. | JAN | 28 1 1 | 28 10 24 |
| \$40 K. y | . | 181 9 51 | 81 8 199 | o. | Fки | 26 18 45 | 26 20 17 |
| 19 15 27 | Man. | 20 22 85 | 20 17 17 10 7 58 | 20 8 54 | MAR. | 28 2 29 | 28 4 48 |
| *** ** *** | Arni | 29 0 8 | 28 28 12 | | , ro | 11 20 51 | 12 4 29 |
| Table of the state | May . | 28 12 47 | 24 14 48 | | Aran | 26 8 57 | 26 12 28 |
| | 0 | (12 7 1) | 12 8 87 | | MAY . June . | 24 16 41 | 25 20 26 24 5 41 |
| | Jesu . | 127 1 81 | 27 5 48 | | Juny. | 24 5 25 | 28 17 11 |
| | Just . | 26 14 15 | 20 19 51 | | Atta. | 22 18 9 | 22 7 21 |
| | Atta | 25 2 50 | 25 H 44 | | BEPT. | 21 6 58 | 21 0 10 |
| 4 | Harr | 28 15 48 | 28 20 BH | | O | (6 1 18 | 5 21 46 |
| | Oct | 23 4 27 | 23 7 fai | | Ocr | 20 10 87 | 20 18 87 |
| 0 | Nov. | 21 17 11 | 21 18 M | | Nov | 19 8 21 | 19 18 22 |
| | 0 | 0 11 88 | 6 10 80 | | DEC. | 18 21 5 | 19 7 2 |
| 1 | Duc | (31 9 09 | 21 5 46 | 424. | JAN | 17 9 49 | 17 22 27 |
| 421. | | 10 10 10 | 10 10 00 | F.K. | Fan | 15 22 88 | 16 11 10 |
| ************************************** | JAN | 19 18 40 | 19 16 88 18 8 20 | 19 14 48 | MAR. | 1 10 11 18 | 16 21 18 |
| 19 21 16 | Fra Man | 10 20 H | 10 14 30 | | 0 | (81 5 40 | 81 4 46 |
| 117 200 217 | Arnit | 1H H 62 | 18 2 83 | | APRIL | 15 0 2 | 15 5 26 |
| A SA | Mar . | 17 21 191 | 17 15 54 | | MAY . | 14 12 46 | 14 12 27 |
| TR | Juna . | 16 10 20 | | | June . | 19 1 80 | 12 10 28 12 8 21 |
| * | July . | 15 28 4 | 15 23 5 | | Aug. | 11 2 18 | |
| H H H | | 14 11 48 | | | BETT, | (0 15 42 | |
| 100 | Merr | | | | 0 | (24 10 4 | |
| 9 | Oct | | 12 19 40 | | Oct | 1.1 | 1 |
| | Nov | | | | Nov | 7 17 10 | 7 19 40 |
| C C C C C C C C C C C C C C C C C C C | Dac | 10 14 44 | 10 21 16 | | Dice . | 7 5 54 | 7 8 21 |
| 1 | | 1 | 1 | 11 | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|----------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------|------------------------------|
| A.D. 425. | | d. h. m. | d. h. m. | A.D. 428. | | d. h. m. | d. h. m. |
| D. | JAN | 5 18 38 | 6 3 18 | A.G. | JAN | (3 9 48 | 3 1 54 |
| d. h . m . | FEB | 4 7 22 | 4 20 10 | 3.61 | 0 | (18 4 10 | 18 16 11 |
| 19 20 31 | Mar | 5 20 6 | 6 10 7 | March. $d. h. m.$ | FEB | 1 22 32 | 1 17 12 |
| | APRIL | 4 8 50 | 4 21 2 | 19 13 58 | MAR | 2 11 16 | 2 9 32 |
| | MAY . | 3 21 34 | 4 5 31 | | A | (100 | 1 2 11 |
| | JUNE . | 2 10 18 | 2 12 32 | | APRIL | (30 12 41 | 30 18 17 |
| | T | (123 2 | 1 19 11 | 1 | MAY . | 30 1 28 | 30 9 5 |
| | JULY. | (31 11 46 | 31 2 34 | | June. | 28 14 12 | 28 22 6 |
| | Aug | 30 0 30 | 29 11 44 | | 0 | (13 8 84 | 12 20 32 |
| | SEPT | 28 13 14 | 27 23 28 | | JULY. | 28 2 56 | 28 9 27 |
| | Oct | 28 1 58 | 27 14 13 | | Aug | 26 15 40 | 26 19 41 |
| | Nov | 26 14 42 | 26 7 38 | | SEPT | 25 4 24 | 25 5 30 |
| | DEC | 26 3 26 | 26 2 46 | | Ост | 24 17 8 | 24 15 38 |
| } | | | | | Nov | 23 5 52 | 28 2 8 |
| 426. | JAN | 24 16 11 | 24 22 0 | | DEC | 22 18 36 | 22 13 24 |
| с. | | (8 10 33 | 8 10 10 | 429. | | 21 7 21 | 21 1 26 |
| | O Feb | 23 4 55 | 23 15 44 | 429. F. | JAN | | |
| 20 2 20 | MAR. | 24 17 39 | 25 6 54 | | FEB | 19 20 5 21 8 49 | 19 14 18 21 4 7 |
| | APRIL | 23 6 23 | 23 19 3 | 19 19 47 | MAR. | | |
| | MAY . | 22 19 7 | 23 4 35 | | APRIL | 19 21 33 | 19 18 52 |
| | JUNE . | 21 7 51 | 21 12 20 | | MAY . | 19 10 17 | 19 10 14 |
| | JULY. | 20 20 35 | 20 19 28 | | 0 | 13 | |
| | 0 | (4 14 57 | 4 11 50 | | JUNE. | | 18 1 86 |
| | Aug | 19 9 19 | 19 3 0 | | JULY. | 17 11 45 | 17 16 21 |
| | SEPT. | 17 22 3 | 17 11 53 | | Aug. | 16 0 29 | 16 6 5 |
| | Oct. | 17 10 47 | 16 22 48 | | SEPT | 14 13 13 | 14 18 44 |
| | Nov. | 15 23 31 | 15 12 11 | | Oct | 14 1 57 | 14 6 84 |
| | DEC | 15 12 15 | 15 3 56 | | Nov | (12 14 41 | 12 17 58 |
| | DEC | 10 12 10 | 10 0 00 | | _ 0 | 27 9 8 | 27 4 58 |
| 407 | - | 0 | 40.04.00 | 1 | DEC | 12 8 25 | 12 4 52 |
| 427. | Jan | 14 0 59 | 13 21 29 | 430. | JAN | 10 16 9 | 10 15 85 |
| | 0 | (28 19 21 | 29 2 17 | Е. | FEB | 9 4 58 | 9 2 7 |
| 00 0 0 | FEB | 12 13 43 | 12 15 46 | 20 1 36 | MAR | 10 17 97 | 10 12 46 |
| 20 8 9 | MAR | 14 2 28 | 14 9 29 | | APRIL | 9 6 21 | 9 0 2 |
| | APRIL | 12 15 12 | 13 1 28 | | MAY . | S 19 5 | 8 12 26 |
| | MAY. | 12 3 56 | 12 15 3 | | 0 | 128 18 27 | 28 20 58 |
| | June. | 10 16 40 | 11 2 12 | 1 | JUNE . | 7 7 49 | 7 2 19 |
| | JULY. | (10 5 24 | 10 11 28 | | July. | 6 20 33 | 6 17 28 |
| | 0 | 24 23 46 | 24 13 4 | | Aug | 5 9 17 | 5 9 21 |
| | Aug | 8 18 8 | 8 19 47 | | SEPT | 8 22 1 | 4 1 15 |
| | SEPT | 7 6 52 | 7 4 9 | | Oct | 8 10 45 | 3 1 6 80 |
| | Oct | 6 19 36 | 6 13 21 | | Nov | ſ 1 28 29 | 2 6 42 |
| | Nov. | 5 8 20 | 4 23 54 | | 0 | 16 17 51 | 16 6 57 |
| | DEC | 4 21 4 | 4 12 5 | | DEC | f 1 12 13 | 1 19 41 |
| | | I . | | | J)80 | 81 0 57 | 81 7 24 |

| n al ox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|-----------------------|--|--|---|---|--|---|--|
|). 1. ch m. '21 | JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OCT O NOV DEC | d. h. m. 29 18 41 28 2 26 29 15 10 28 3 54 {12 22 16 27 16 38 26 5 22 25 18 6 24 6 50 22 19 34 22 8 18 { 6 2 40 20 21 2 20 9 46 | d. h. m. 29 17 58 28 3 28 29 12 19 27 21 24 13 9 52 27 7 34 25 19 38 25 9 47 24 1 57 22 19 20 22 12 52 5 16 19 21 5 27 20 20 20 | A.D. 434. g. March. d. h. m. 20 0 51 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | d. h. m. 26 4 52 24 17 36 {11 11 58 26 6 20 24 19 4 24 7 48 22 20 82 22 9 16 20 22 0 { 4 16 22 19 10 44 18 28 28 17 12 12 17 0 56 | d. h. m. 26 16 2 25 7 26 11 6 21 26 19 45 25 5 17 24 12 51 22 19 34 22 2 31 20 10 46 4 21 16 18 21 14 18 10 32 17 2 43 16 21 5 |
| 2. s. 8 18 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV | 18 22 81 17 11 15 17 28 59 16 12 48 16 1 27 14 14 11 14 2 55 12 15 89 11 4 28 10 17 7 9 5 51 8 18 35 | 19 9 7 17 19 46 18 4 41 16 12 29 15 20 1 14 4 24 18 14 88 12 8 29 10 19 9 10 18 8 9 8 2 9 2 81 | 435. F. 20 6 40 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV | 15 18 40 {14 2 24 28 20 46 15 15 9 14 8 53 18 16 37 12 5 21 11 18 5 {10 6 49 25 1 11 8 19 38 8 8 17 6 21 1 | 15 16 21 14 10 58 28 19 12 16 3 21 14 16 58 14 3 41 12 12 15 11 19 40 10 8 1 24 23 34 8 11 18 7 21 16 6 9 26 |
| 9 2 | JAN FEB MAR O AFRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | 7 7 19 5 20 8 7 8 47 22 8 9 5 21 81 5 10 15 8 22 59 8 11 43 (2 0 27 81 18 11 (15 7 88 80 1 55 29 14 89 28 8 28 27 16 7 | 7 19 13 6 9 16 7 20 83 22 0 22 6 5 27 5 12 48 8 19 82 8 2 50 1 11 45 80 28 14 15 12 4 29 18 48 29 7 18 28 2 29 27 21 59 | 436. E.D. 19 12 29 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC. | 6 9 45 4 22 29 3 11 13 3 28 57 2 12 41 { 2 1 26 31 14 6 30 2 56 29 15 87 28 4 21 | 5 23 59 4 16 36 8 10 26 4 4 23 2 21 12 2 12 0 3 (1 0 22 30 10 35 2 9 19 27 2 8 8 54 3 26 12 48 3 25 22 47 3 24 10 9 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. (Q Full Ecl. |
|----------------------------|---------|------------------------------------|------------------------------------|----------------------------|--------|-----------------------------------|-----------------------------------|
| A.D. 437. | | d. h. m. | d. h. m. | A.D. 440. | | d. h. m. | d. h. m. |
| c. | 0 | § 8 1 3 9 | 8 13 43 | G.F. March. | JAN | 20 11 12 | 20 17 12 |
| March. | JAN | 22 20 1 | 22 13 28 | d. $h.$ $m.$ | FEB | 18 28 56 | 19 2 58 |
| d. h. m. | FEB | 21 8 46 | 21 5 5 | 19 11 44 | MAR | 19 12 40 | 19 11 58 |
| 19 18 17 | MAR. | 22 21 30 | 22 21 24 | | APRIL | 18 1 24 | 17 20 32 |
| | APRIL | 21 10 14 | 21 13 42 | l | 0 | 2 19 46 | 3 7 37 |
| | MAY . | 20 22 58 | 21 5 10 | | MAY. | 17 14 8 | 17 5 50 |
| | JUNE. | 19 11 42 | 19 19 11 | İ | June. | 16 2 52 | 15 16 43 |
| | _ 0 | 4 6 4 | 3 19 25 | | JULY. | 15 15 36 | 15 5 4 5 |
| | JULY. | 19 0 26 | 19 7 30 | | Aug | 14 4 20 | 13 21 5 |
| | AUG | 17 13 10 | 17 18 28 | | SEPT | 12 17 4 | 12 14 10 |
| | SEPT | 16 1 54 | 16 4 41 | | Oct | 12 5 48 | 12 8 1 |
| | Ост | 15 14 38 | 15 14 47 | • | 0 | 27 0 10 | 26 14 47 |
| | Nov | 14 3 22 | 14 1 12 | | Nov. | 10 18 32 | 11 1 26 |
| | Dec | 13 16 6 | 13 12 9 | | DEC | 10 7 16 | 10 17 25 |
| | J | 28 10 28 | 28 19 2 | 441. | JAN | 8 20 0 | 9 7 17 |
| 438. | JAN | 12 4 50 | 11 23 40 | E. | FEB | 7 8 44 | 7 18 54 |
| в. | FEB | 10 17 34 | 10 11 51 | 19 17 33 | MAR | 8 21 28 | 9 4 29 |
| 20 0 6 | Mar | 12 6 19 | 12 0 53 | | APRIL | 7 10 12 | 7 12 81 |
| | APRIL | 10 19 3 | 10 14 53 | | 0 | 22 4 34 | 22 11 12 |
| | MAY . | 10 7 47 | 10 5 48 | | MAY . | 6 22 56 | 6 19 56 |
| | JUNE. | ∫ 8 20 31 | 8 21 11 | | JUNE . | 5 11 40 | 5 8 89 |
| | 0 | 23 14 53 | 23 11 4 | | JULY. | 5 0 24 | 4 12 46 |
| | JULY. | 8 9 15 | 8 12 23 | | Aug | 8 13 8 | 8 0 15 |
| | Aug | 6 21 59 | 7 2 53 | | SEPT | 2 1 52 | 1 14 85 |
| | SEPT | 5 10 43 | 5 16 20 | | | c 1 14 86 | 1 7 86 |
| | Oct | 4 23 27 | 5 4 51 | | Oct. O | 16 8 58 | 16 6 28 |
| | Nov | 3 12 11 | 3 16 38 | | | (31 8 20 | 81 2 28 |
| | DEC | 3 0 55 | 3 3 53 | | Nov | 29 16 4 | 29 21 27 |
| | 0 | 17 19 17 | 17 18 42 | | DEC | 29 4 48 | 29 15 16 |
| 439. | JAN | ſ 1 13 39 | 1 14 44 | 442. | JAN | 27 17 83 | 28 6 44 |
| A. | | 31 2 23 | 31 1 11 | D. | FEB. | 26 6 17 | 26 19 17 |
| • | FEB | | | 19 23 22 | MAR. | 27 19 1 | 28 5 11 |
| 20 5 55 | MAR | 1 15 7 | 1 11 28 | | 0 | (11 18 28 | 11 11 89 |
| 0 00 | | 81 3 51 | 30 22 3 | | APRIL | 26 7 45 | 26 13 4 |
| | APRIL - | 29 16 35 | 29 9 35 | i | MAY . | 25 20 29 | 25 19 54 |
| | MAY . | 29 5 19 | 28 22 31 | 1 | JUNE . | 24 9 13 | 24 2 45 |
| | JUNE. | 27 18 3 | 27 13 1 | | JULY. | 28 21 57 | 28 10 45 |
| | JULY. | 27 6 47 | 27 4 42 | | Aug | 22 10 41 | 21 20 54 |
| | AUG. | 25 19 31 | 25 20 53 | | SEPT | 20 28 25 | 20 9 58 |
| i | SEPT. | 24 8 15 | 24 12 49 | | 0 | (5 17 47 | 5 21 42 |
| | Oct | 23 20 59 | 24 3 52 | | Oct. | 20 12 9 | 20 2 8 |
| | Nov. | 22 9 43 | 22 17 42 | | Nov. | 19 0 58 | 18 20 42 |
| | DEC. | 21 22 27 | 22 6 8 | | DEC. | 18 13 37 | |
| 1 | | | | | DEC. | 18 13 87 | 18 16 18 |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|-----------------|--------|-------------------|-------------------|-------------------|---------------|-------------------|---------------------|
| Equinox. | | (O Full Ecl.) | O Full Ecl.) | Equinox. | | (O Full Ecl.) | (O Full Ecl.) |
| A.D. 443. | | d. h. m. | d. h. m. | A.D. 446, | | d. h. m. | d. h. m. |
| C. | JAN | 17 2 22 | 17 11 15 | F. | JAN | (13 17 32 | 13 10 19 |
| March. d. h. m. | FEB. | 15 15 6 | 16 4 1 | -r , | 0 | 28 11 54 | 29 0 37 |
| 20 5 10 | MAR. | 17 3 50 | 17 17 48 | March. $d. h. m.$ | FEB | 12 6 16 | 12 1 6 |
| | APRIL | 15 16 34 | 16 4 35 | 19 22 37 | MAR | 13 19 0 | 13 16 49 |
| | MAY . | 15 5 18 | 15 12 58 | | APRIL | 12 7 44 | 12 9 0 |
| | June . | 13 18 2 | 13 19 58 | | MAY . | 11 20 28 | 12 0 51 |
| | JULY . | 13 6 46 | 13 2 43 | | June . | 10 9 12 | 10 15 40 |
| | Aug | 11 19 30 | 11 10 18 | | July . | (9 21 56 | 10 4 57 |
| | SEPT | 10 8 14 | 9 19 40 | | 0 | 24 16 18 | 24 3 48 |
| | Ост. | 9 20 58 | 9 7 36 | | Aug. | 8 10 40 | 8 16 49 |
| | Nov. | 8 9 42 | 7 22 24 | | SEPT | 6 23 24 | 7 3 36 |
| | DEC. | 7 22 26 | 7 15 47 | | Oct | 6 12 8 | 6 13 56 |
| | DEC | 1 22 20 | 1 19 41 | | | 5 0 52 | 5 0 21 |
| | | | | | Nov | 4 13 36 | 4 11 6 |
| 444. | JAN | 6 11 10 | 6 10 39 | | DEC | 4 15 50 | 4 11 0 |
| B.A. | FEB | § 4 28 54 | 5 5 37 | 447. | JAN | 8 2 20 | 2 22 15 |
| | 0 | 19 18 16 | 19 18 35 | E. | FEB | 1 15 4 | 1 9 52 |
| 19 10 59 | MAR | 5 12 38 | 5 23 7 | 20 4 26 | MAR | 8 3 48 | 2 22 9 |
| | APRIL | 4 1 22 | 4 14 7 | | APRIL | 1 16 32 | 1 11 22 |
| | MAY . | 8 14 6 | 4 2 13 | | 3.5 | (1 5 16 | 1 1 36 |
| | JUNE. | 2 2 50 | 2 11 47 | | MAY . | (30 18 0 | 80 16 41 |
| | JULY . | 5 1 15 84 | 1 19 44 | | 0 | (14 12 22 | 14 11 26 |
| | JULI . | 31 4 18 | 31 3 8 | | JUNE . | 29 6 44 | 29 8 4 |
| | 0 | (14 22 40 | 14 18 38 | | JULY. | 28 19 28 | 28 28 8 |
| | Aug | 29 17 2 | 29 11 0 | | Aug | 27 8 12 | 27 13 24 |
| | SEPT | 28 5 46 | 27 20 11 | | SEPT | 25 20 56 | 26 2 42 |
| | Ocr | 27 18 80 | 27 7 18 | · · | Oor | 25 9 40 | 25 15 4 |
| | Nov | 26 7 14 | 25 20 42 | | Nov | 23 22 24 | 24 2 45 |
| 1 | DEC | 25 19 58 | 25 12 18 | ļ. | 0 | c 8 16 46 | 8 12 53 |
| | | 1 | | | DEC. | 23 11 8 | 23 13 50 |
| 445. | JAN. | 24 8 48 | 24 5 22 | 440 | T | 04 00 50 | 22 0 22 |
| G. | 0 | (885 | 8 10 52 | 448. | JAN. , FEB | 21 23 53 20 12 37 | 20 10 29 |
| 1 | FEB | 22 21 27 | 22 28 10 | li . | | 20 12 57 | 20 10 29 |
| 19 16 48 | MAR. | 24 10 11 | 24 16 30 | 19 10 15 | MAR. | 1 | |
| | APRIL | 22 22 55 | 28 8 18 | | APRIL | 19 14 5 | 19 7 17 18 19 15 |
| | MAY. | 22 11 89 | 22 21 58 | | MAY . | 19 2 49 | |
| | June . | 21 0 28 | 21 9 18 | | _ 0 | 2 21 11 | 3 4 18 |
| | JULY . | 20 18 7 | 20 18 50 | | JUNE . | 17 15 83 | 17 8 51 |
| | | (4 7 29 | 8 19 58 | | JULY. | 17 4 17 | 17 0 2 |
| | Aug. | 19 1 51 | 19 8 85 | | Aug | 15 17 1 | 15 16 13 |
| | SEPT. | 17 14 85 | 17 12 24 | | SEPT | 14 5 45 | 14 8 38 |
| | | 17 8 19 | 16 21 57 | | Oor | 13 18 29 | 14 0 29 |
| | Oct | 15 16 8 | 15 8 42 | | Nov. | \{12 \ 7 \ 13 | 12 15 13 |
| | Nov. | | 14 20 48 | | _ 0 | 27 1 35 | 26 14 19 |
| - | DEC | 15 4 47 | 17 20 40 | | DEC | 11 19 57 | 12 4 29 |
| | | | 1 | 11 | , | 1 | * |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|------------|------------------------------------|------------------------------------|
| A.D. 449. | | d. h. m. | d. h. m. | A.D. 452. | | d. h. m. | d. h. m. |
| B. March. | JAN | 10 8 42 | 10 16 15 | F.E. | JAN | 7 23 51 | 8 5 54 |
| d. h. m. | FEB | 8 21 26 | 9 2 31 | March. $d. h. m.$ | FEB | 6 12 35 | 6 23 51 |
| 19 16 3 | MAR | 10 10 10 | 10 11 35 | 19 9 30 | MAR | (7 1 20 | 7 15 8 |
| | APRIL | 8 22 54 | 8 20 2 | | 0 | 21 19 42 | 21 14 1 |
| | MAY . | (81138 | 8 4 42 | | APRIL | 5 14 4 | 6 3 17 |
| | 0 | {23 6 0 | 23 16 52 | | MAY . | 5 2 48 | 5 12 43 |
| | June . | 7 0 22 | 6 14 31 | | JUNE . | 3 15 32 | 3 20 16 |
| | July. | 6 13 6 | 6 2 21 | | JULY. | 3 4 16 | 3 3 4 |
| | Aug | 5 1 50 | 4 16 35 | | | (117 0 | 1 10 11 |
| | SEPT | 3 14 34 | 3 9 2 | | Aug | 31 5 44 | 30 18 41 |
| | Ocr. | 3 3 18 | 3 2 51 | | 0 | (15 0 6 | 15 4 50 |
| | Nov. | (1162 | 1 20 50 | | SEPT | 29 18 28 | 29 5 21 |
| | 0 | 16 10 24 | 16 1 2 | | Oct. | 29 7 12 | 28 18 47 |
| , a | | (1 4 46 | 1 13 51 | | Nov. | 27 19 56 | 27 10 56 |
| | DEC | 30 17 30 | 31 4 55 | | DEC. | 27 8 40 | 27 5 7 |
| | | (00 1, 00 | OT # 00 | ł | JDEO | 21 0 40 | 21 5 1 |
| 450. | Jan | 29 6 14 | 29 17 38 | 453. | JAN | 25 21 25 | 26 0 6 |
| A. | FEB. | 27 18 58 | 28 4 4 | D. | 703 | | |
| 19 21 52 | MAR. | 29 7 42 | 29 12 37 | Ì | | | 24 18 20 |
| 10 21 02 | APRIL | 27 20 26 | 27 20 6 | 19 15 19 | 0 M(17) | 11 4 30 | 11 3 19 |
| | MAY. | 27 9 10 | | 19 19 19 | MAR | 25 22 52 | 26 10 85 |
| | JUNE . | | | | APRIL | 24 11 36 | 25 0 4 |
| | | 25 21 54 | 25 11 35 | | MAY . | 24 0 20 | 24 10 51 |
| | JULY. | 25 10 38 | 24 21 46 | | JUNE. | 22 13 4 | 22 19 34 |
| | AUG. | 23 23 22 | 23 10 40 | | JULY. | 22 1 48 | 22 3 14 |
| | SEPT | 22 12 6 | 22 2 32 | | Aug | 20 14 32 | 20 10 55 |
| | Oct | 22 0 50 | 21 20 43 | | _ 0 | § 4 8 54 | 4 6 39 |
| | Nov. | 20 13 34 | 20 15 57 | | SEPT | (19 3 16 | 18 19 31 |
| | DEC | 20 2 18 | 20 10 41 | | Oct | 18 16 0 | 18 5 45 |
| | | | | | Nov | 17 4 44 | 16 18 1 |
| 451. | JAN | 18 15 2 | 19 3 26 | | DEC | 16 17 28 | 16 8 25 |
| G. | FEB | 17 3 46 | 17 17 24 | | | | |
| 20 3 41 | MAR | 18 16 31 | 19 4 30 | 454. | JAN | 15 6 13 | 15 0 41 |
| | 0 | 5 2 10 53 | 2 7 28 | C. | FEB | 13 18 57 | 13 18 2 |
| | APRIL | 17 5 15 | 17 13 10 | 19 21 8 | MAR | 15 7 41 | 15 11 32 |
| | MAY . | 16 17 59 | 16 20 18 | | APRIL | 13 20 25 | 14 4 4 |
| | June . | 15 6 43 | 15 2 58 | | MAY. | 13 9 9 | 13 18 46 |
| | JULY. | 14 19 27 | 14 10 15 | | JUNE . | 11 21 53 | 12 7 16 |
| | Aug | 13 8 11 | 12 19 17 | | JULY. | 11 10 37 | 11 17 48 |
| | SEPT | (11 20 55 | 11 6 54 | | Aug | 9 23 21 | 10 8 6 |
| | 0 | 26 15 17 | 26 20 12 | | SEPT. | 8 12 5 | 8 11 59 |
| | Oct | 11 9 39 | 10 21 37 | | OCT. | 8 0 49 | 7 21 19 |
| | Nov | 9 22 23 | 9 15 10 | | Nov. | 6 13 33 | 6 7 35 |
| | DEC | 9 11 7 | 9 10 27 | | DEC. | 6 2 17 | 5 19 4 |
| | 1 | | 1 | 11 | | 0 4 11 | 0 10 9 |

| Mean Vernal | Month. | Mean New Moon. | True New Moon. | Mean Vernal | Month. | Mean New Moon. | True New Moon. |
|----------------|-------------|------------------------|----------------|----------------|--------|--|--------------------|
| Equinox. | | (O Full Ecl.) | (O Full Ecl.) | Equinox. | | (O Full Ecl.) | (O Full Ecl.) |
| A.D. 455. | | d. h. m. | d. h. m. | A.D. 458. | | d. h. m. | d. h. m. |
| В. | JAN | ∫ 4 15 1 | 4 7 41 | E. | JAN | $\begin{bmatrix} 1 & 6 & 11 \\ 30 & 18 & 55 \end{bmatrix}$ | 1 14 57 31 1 52 |
| March. | 0 | 19 9 23 | 19 22 7 | March. | FEB | (00 10 00 | 01 1 02 |
| d. h. m. | FEB | 3 3 45 | 2 21 35 | d. h. m. | | (1 7 89 | 1 11 18 |
| 20 2 56 | MAR | 4 16 29 | 4 12 36 | 19 20 23 | MAR | 30 20 28 | 30 19 46 |
| | APRIL | 3 5 13 | 3 4 22 | | APRIL | 29 9 7 | 29 4 0 |
| | MAY . | 2 17 57 | 2 20 18 | | 0 | 514 3 29 | 14 14 31 |
| | June . | f 1 6 41 | 1 11 40 | | MAY. | 128 21 51 | 28 12 57 |
| | JUNE. | \text{\lambda}30 19 25 | (1 1 52 | | JUNE. | 27 10 35 | 26 23 35 |
| | 0 | ∫15 13 47 | 15 2 44 | | JULY. | 26 23 19 | 26 12 34 |
| | July . | f30 8 9 | (30 14 37 | | Aug | 25 12 8 | 25 4 5 |
| | Aug | 28 20 53 | 29 2 8 | | SEPT | 24 0 47 | 23 21 30 |
| | SEPT | 27 9 37 | 27 12 55 | | Ocr | 23 13 31 | 23 15 47 |
| | Ocr | 26 22 21 | 26 23 28 | | 0 | 7 7 58 | 6 23 30 |
| | Nov | 25 11 5 | 25 10 8 | | Nov. | 122 2 15 | 22 9 37 |
| | DEC | 24 23 49 | 24 21 4 | | DEC | 21 14 59 | 22 1 52 |
| | (| | | 459. | JAN | 20 3 44 | 20 15 50 |
| | _ 0 | 8 18 12 | 9 3 4 | D, | FEB. | 18 16 28 | 19 3 16 |
| 456. | JAN | 128 12 34 | 28 8 18 | 20 2 12 | MAR. | 20 5 12 | 20 12 33 |
| A.G. | FEB | 22 1 18 | 21 19 57 | | APRIL | 18 17 56 | 18 20 19 |
| 19 8 45 | MAR | 22 14 2 | 22 8 21 | : | 0 | (3 12 18 | 3 17 50 |
| | APRIL | 21 2 46 | 20 21 49 | | MAY . | 18 6 40 | 18 8 25 |
| | MAY. | 20 15 30 | 20 12 19 | | JUNE . | 16 19 24 | 16 10 56 |
| | June . | 19 4 14 | 19 3 35 | | JULY. | 16 8 8 | 15 19 58 |
| | _ 0 | ∫ 3 22 36 | 8 18 32 | | Avg | 14 20 52 | 14 7 29 |
| | JULY. | 18 16 58 | 18 19 1 | | SEPT | 18 9 86 | 12 21 58 |
| | Aug | 17 5 42 | 17 9 58 | | Ocr | f12 22 20 | 12 15 18 |
| | SEPT | 15 18 26 | 16 0 3 | | O | 127 16 42 | 27 15 7 |
| | Ocr | 15 7 10 | 15 13 9 | | Nov | 11 11 4 | 11 10 14 |
| | Nov. | 13 19 54 | 14 1 22 | | DEC | 10 28 48 | 11 5 81 |
| | DEC | 13 8 88 | 18 12 51 | 400 | 7 | 0 10 00 | 0.00.00 |
| | 0 | 128 3 0 | 28 2 88 | 460. | JAN | 9 12 88 | 9 28 28 |
| 457. | JAN. | 11 21 23 | 11 23 36 | li . | FEB | 8 1 17 8 14 1 | 8 14 52 9 8 16 |
| F. | FEB. | 10 10 7 | 10 9 43 | 19 8 1 | MAR. | 7 2 45 | |
| 19 14 34 | MAR. | 11 22 51 | 11 19 80 | | APRIL | 21 21 7 | 21 18 26 |
| | APRIL | 10 11 85 | 10 5 82 | | MAY . | 6 15 29 | 6 20 88 |
| | MAY. | 10 11 33 | 9 16 84 | | JUNE . | 5 4 18 | 5 8 21 |
| | JUNE . | 8 13 8 | 8 5 10 | | JULY . | 4 16 57 | 4 10 18 |
| | JULY. | 8 1 47 | 7 19 88 | | Aug | 8 5 41 | 2 18 16 |
| | Aug. | 6 14 81 | 6 11 25 | | SEPT | 1 18 25 | (1 4 84 |
| | SEPT. | 5 8 15 | 5 4 8 | | | (178 | (80 17 48 |
| ì | Ocr. | 4 15 59 | 4 20 84 | ∥ ` | Ocr. C | 16 1 81 | 16 6 9 |
| | Nov. | 8 4 48 | 8 12 11 | | | (80 19 58 | |
| | DEC. | 2 17 27 | 8 2 28 | | Nov. | | 29 4 40 |
| | 1 1 1 1 1 C | 4 11 21 | 5 2 25 | | DEC. | 28 21 21 | 29 0 14 |
| | 1 | U | II. | II. | | | I |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|-------------|------------------------------------|--|----------------------------|--------|---|------------------------------|
| A.D. 461. | | d. h. m. | d. h. m. | A.D. 464. | | d. h. m. | d. h. m. |
| _ A. | JAN | 27 10 5 | 27 19 3 | E.D. | JAN | 25 1 15 | 24 18 39 |
| d. h . m . | FEB | 25 22 49 | 26 11 41 | March. | | 6 8 19 37 | 9 8 53 |
| 19 13 49 | Mar. | 27 11 33 | 28 1 20 | 'd. h. m. | FEB | 23 13 59 | 23 8 50 |
| | APRIL | 26 0 17 | 26 12 15 | 19 7 15 | MAR. | 24 2 43 | 23 23 59 |
| | MAY. | 25 13 1 | 25 20 19 | 10 . 10 | APRIL | 22 15 27 | |
| | June . | 24 1 45 | 24 3 24 | | MAY. | 1 | 22 15 41 |
| | July. | 23 14 29 | 23 10 19 | | June . | | 22 7 20 |
| | Aug. | 22 3 13 | 21 18 7 | | | 20 16 55 | 20 22 14 |
| | SEPT. | 20 15 57 | 20 3 45 | | JULY. | 20 5 39 | 20 11 54 |
| | Oct | 20 4 41 | 19 15 51 | | . 0 | $\begin{cases} 4 & 0 & 1 \\ 10 & 10 & 00 \end{cases}$ | 3 11 12 |
| | Nov | 18 17 25 | 18 6 40 | | Aug | (18 18 23 | 19 0 16 |
| | | | | | SEPT | 17, 7 7 | 17 11 38 |
| | DEC | 18 6 9 | 17 23 53 | | Ocr | 16 19 51 | 16 22 28 |
| | , | | | - | Nov | 15 8 35 | 15 9 14 |
| 462. | JAN | 16 18 54 | 16 18 30 | 1 | DEC | 14 21 19 | 14 20 4 |
| G. | Г ЕВ | 15 7 38 | 15 13 9 | 465. | JAN | 13 10 3 | 13 7 1 |
| | 0 | f 2 2 0 | 2 2 53 | . C. | FEB | 11 22 47 | 11 18 11 |
| 19 19 38 | MAR | 16 20 22 | 17 6 22 | 19 13 4 | MAR. | 13 11 32 | 18 5 54 |
| | APRIL | 15 9 6 | 15 21 12 | 20 20 2 | APRIL | 12 0 16 | 11 18 30 |
| 1. | MAY . | 14 21 50 | 15 9 18 | | MAY. | 11 13 0 | 11 8 16 |
| | JUNE. | 18 10 34 | 13 19 1 | | JUNE . | (10 1 44 | 9 23 7 |
| | JULY. | 12 23 18 | 13 3 12 | | O CAL. | 24 20 6 | 24 18 55 |
| | Aug | ∫11 12 2 | 11 10 55 | | JULY. | 9 14 28 | 9 14 36 |
| | 0 | 126 6 24 | 26 1 36 | | Aug | 8 3 12 | 8 6 3 |
| | SEPT | 100 46 | 9 19 8 | | SEPT. | | |
| | Ост | 9, 13 30 | 9 4 39 | | Oct | 6 15 56 | 6 20 58 |
| | Nov | 8 2 14 | 7 15 57 | | Nov. | 6 4 40 | 6 10 47 |
| | DEC | 7 14 58 | 7 5 16 | | DEC. | 4 17 24 | 4 23 41 |
| | | ٠. | | | | $\begin{cases} 4 & 6 & 8 \\ 10 & 0 & 9 \end{cases}$ | 4 11 40 |
| 463. | JAN | 6 3 43 | 5 20 30 | · · | 0 | 19 0 80 | 18 20 54 |
| F. | FEB. | (4 16 27 | 4 13 10 | 466. | JAN | 2 18 53 | 2 22 46 |
| | 0 | 19 10 49 | 19 19 17 | В. | FEB | 1 7 37 | 1 9 2 |
| 20 1 27 | MAR | 6 5 11 | 6 6 28 | 19 18 53 | MAR | 2 20 21 | 2 18 42 |
| | APRIL | 4 17 55 | 4 23 25 | | A | (195 | 1 4 17 |
| | MAY. | 4 6 39 | | | APRIL | 180 21 49 | 80 14 28 |
| 1 | JUNE. | 2 19 23 | 1. | | MAY. | 80 10 88 | 80 2 2 |
| | OUME. | (287 | | | 0 | (14 4 55 | 14 11 38 |
| | July. | 81 20 51 | 2 16 17 | | JUNE . | (28 23 17 | 28 15 26 |
| | | (15 15 18 | $\begin{cases} 1 & 2 & 18 \\ 15 & 3 & 4 \end{cases}$ | | JULY . | 28 12 1 | 28 6 41 |
| | Aug. | 30 9 35 | 15 8 4 30 11 30 | | Aug | 27 0 45 | 26 23 18 |
| | SEPT. | 28 22 19 | 28 20 47 | | SEPT | 25 13 29 | 25 16 8 |
| 1 | Oct. | 28 11 3 | | | Ocr | 25 2 13 | 25 8 84 |
| | Nov. | 26 23 47 | 28 6 41 | | Nov | 23.14 57 | 28 28 46 |
| | DEC. | 26 12 31 | 26 17 34 | | 0 | (8 9 19 | 7 28 48 |
| | ، باعرب | 20 12 31 | 26 5 34 | | DEC | 23 8 41 | 23 13 16 |
| | | lő ka | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|----------|---|------------------------------------|
| A.D. 467. | | d. h. m. | d. h. m. | A.D. 470. | | d. h. m. | d. h. m. |
| March. | JAN | 21 16 25 | 22 0 57 | D. | JAN | 18 7 35 | 18 13 46 |
| d. h. m. | FEB | 20 5 9 | 20 10 57 | d. h. m. | FEB | 16 20 19 | 17 7 33 |
| 20 0 42 | MAR | 21 17 53 | 21 19 38 | 19 18 8 | MAR. | 18 9 3 | 18 22 38 |
| | APRIL | 20 6 37 | 20 3 40 | | 0 | (2 3 25 | 1 21 33 |
| | MAY . | 19 19 21 | 19 11 57 | | APRIL | 16 21 47 | 17 10 40 |
| | 0 | f 3 13 43 | 3 23 12 | | MAY. | 16 10 31 | 16 20 3 |
| | June . | 18 8 5 | 17 21 30 | | JUNE . | 14 23 15 | 15 3 39 |
| | JULY . | 17 20 49 | 17 9 12 | | Juny. | 14 11 59 | 14 10 35 |
| | Aug | 16 9 33 | 15 23 31 | | Aug | 13 0 43 | 12 17 58 |
| | SEPT | 14 22 17 | 14 16 14 | 0 | SEPT | (11 13 27 | 11 2 43 |
| | Ocr | 14 11 1 | 14 10 26 | | 0 | 26 . 7 49 | 26 12 28 |
| | Nov | (12 23 45 | 13 4 52 | | Oct | 11 2 11 | 10 13 37 |
| | 0 | 27 18 7 | 27 9 49 | | Nov. | 9. 14. 55 | 9 3 8 |
| | DEC | 12 12 29 | 12 22 11 | | DEC | 9 3 39 | 8 19 9 |
| | | | | | | | 0 20 0 |
| 468. | JAN | 11 1 13 | 11 13 24 | 471. | JAN | 7 16 24 | 7 13 6 |
| G.F. | FEB | 9 18 57 | 10 2 1 | C. | FEB. | 6 5 8 | |
| 19 6 81 | MAR. | 10 2 42 | 10 12 12 | 19 23 57 | MAR. | | 6 7 43 |
| 10 0 01 | APRIL | 8 15 26 | 8 20 29 | 19 20 01 | O INLAR. | $\begin{cases} 7 & 17 & 52 \\ 22 & 12 & 14 \end{cases}$ | 8 1 38 |
| | MAY. | 8 4 10 | | | | | 22 11 20 |
| | | | | | APRIL | 6 6 36 | 6 17 39 |
| | JUNE. | 6 16 54 | 6 10 44 | | MAY . | 5 19 20 | 6 7 5 |
| | | | 5 18 50 | | JUNE . | 4 8 4 | 4 17 59 |
| | Aug | 4 18 22 | 4 5 0 | | JULY . | 3 20 48 | 4 2 54 |
| | SEPT. | 8 7 6 | 2 18 2 | | Aug | 2 9 32 | |
| | Ocr | 2 19 50 | 2 10 5 | | ļ | 131 22 16 | 1 |
| | Nov | 1 8 81 | 1 4 30 | | ^ 0 | 15 16 38 | 1 |
| | _ | (80 21 18 | 80 28 57 | | SEPT. | 00 11 0 | |
| | DEC | 80 10 2 | 80 18 47 | | Oct | 29 23 44 | |
| | | | | | Nov. | 28 12 28 | |
| 469. | JAN | 28 22 46 | 29 11 33 | | DEC | 28 1 12 | 27 16 52 |
| E. | FEB. | 27, 11, 31 | 28 1 25 | | | 1. | |
| 19 12 20 | MAR | 29 0 15 | 29 12 17 | 472. | JAN | 26 18 56 | |
| | 0 | [12 18 87 | 12 14 27 | B.A. | FEB | 25 2 40 | 25 1 80 |
| | APRIL | le 12 59 | 27 20 46 | 19 5 46 | MAR | 25 15 24 | 1 |
| | MAY. | 27 1 48 | 27 8 47 | | April | 24 4 8 | 1 |
| | JUNE . | 25 14 27 | 25 10 25 | } | MAY . | 28 16 52 | 24 1 26 |
| | July. | 25 8 11 | 24 17 47 | | June . | 22 5 36 | |
| | Aug | 28 15 55 | 28 2 56 | | JULY. | 21 18 20 | T. |
| | SEPT | 22 4 89 | 21 14 44 | | Aug | 20 7 4 | 20 10 49 |
| | 0 | 6 28 1 | 7 4 27 | | SEPT | 18 19 48 | 18 20 13 |
| | Ocr | 121 17 28 | 21 5 84 | | Oct | 18 8 32 | 18 5 57 |
| | Nov | 20 6 7 | 19 28 9 | | Nov | 16 21 16 | 16 16 26 |
| | DEC | 19 18 51 | 19 18 25 | | DEC | 16 10 0 | 16 8 50 |
| | | | | | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|----------------|---|------------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| A.D. 473. | | d. h. m. | d. h. m. | A.D. 476. | | d. h. m. | d. h. m. |
| G. | - | | | D.C. | JAN | 12 13 55 | 12 23 41 |
| | JAN | {14 22 45 | 14 16 14 | March. d . h . m . | FEB. | 11 2 39 | 11 10 21 |
| March. | 0 | 129 17 7 | 30 6 23 | d. h. m. 19 5 1 | MAR. | 11 15 23 | 11 19 30 |
| d. h. m. 19 11 35 | FEB Mar | 13 11 29 15 0 13 | 13 5 36 14 19 59 | | APRIL | 10 4 7 | 10 3 34 |
| 19 11 55 | | 13 12 57 | 13 11 13 | | MAY . | f 9 16 51 | 9 11 24 |
| | APRIL | | | | 0 | 124 11 18 | 24 21 21 |
| | MAY . | 13 1 41 11 14 25 | 13 2 49 11 18 10 | | June. | 8 5 35 | 7 20 4 |
| | JUNE. JULY. | (11 3 9 | 11 8 37 | | JULY. | 7 18 19 | 7 6 31 |
| | O O | 25 21 31 | 25 10 9 | | Aug | 6 7 3 | 5 19 32 |
| | Aug | 9 15 53 | 9 21 51 | | SEPT | 4 19 47 | 4 11 11 |
| | SEPT. | 8 4 37 | 8 9 57 | | Ост | 4 8 81 | 4 4 57 |
| | Oct | 7 17 21 | 7 21 17 | | Nov | (2 21 15 | 2 23 39 |
| | Nov | 6 6 5 | 6 8 16 | | 0 | 17 15 37 | 17 8 20 |
| | DEC | 5 18 49 | 5 19 8 | ļ | D | ſ 2 9 59 | 2 17 51 |
| | | 0 10 10 | 0 20 0 | | DEC | \31 22 44 | |
| 474. | Jan | ∫ 4 7 34 | 4 5 58 | 477 | T | <i>f</i> | 1 10 19 |
| F. | 0 | 19 1 56 | 19 11 1 | 477. B. | JAN | 80 11 28 | 81 0 14 |
| | FEB | 2 20 18 | 2 16 49 | | FEB | c 1 10 | 1 11 80 |
| 19 17 24 | MAR | 4 9 2 | 4 3 57 | 19 10 50 | MAR. | 1 0 12 | 1 11 80 30 20 29 |
| 1 | APRIL | 2 21 46 | 2 15 44 | | A | 29 1 40 | 29 3 58 |
| | MAY . | $\begin{cases} 2 & 10 & 30 \end{cases}$ | 2 4 39 | | APRIL | 29 1 40 (18 20 2 | 14 0 24 |
| | | \31 23 14 | 31 18 50 | | MAY. | 28 14 24 | 28 10 51 |
| | June. | 30 11 58 | 30 10 4 | | June. | 27 3 8 | 26 18 15 |
| | _ 0 | {15 6 20 | 15 2 5 | | JULY. | 26 15 52 | 26 8 16 |
| | JULY. | 130 0 42 | 30 1 45 | | Aug | 25 4 86 | 24 14 51 |
| | Aug | 28 13 26 | 28 17 11 | | SEPT. | 28 17 20 | 28 5 29 |
| | SEPT | 27 2 10 26 14 54 | 27 7 53 | 1 | Oct | 28 6 4 | 22 22 56 |
| | Oct | | 26 21 34 | | 0 | 7 0 26 | 6 28 57 |
| | Nov Dec | 25 3 38 24 16 22 | 25 10 11 24 21 46 | | Nov | 21 18 48 | 21 18 10 |
| | DEC. | | | | DEC | 21 7 82 | 21 18 84 |
| 4 | _ O | 8 10 44 | 8 10 28 | 470 . | | | |
| 475. E. | JAN | 123 5 6 | 23 8 21 | 478. | JAN | 19 20 16 | 20 7 82 |
| 19 23 13 | FEB. | 21 17 50 | 21 18 5 | 19 16 39 | FEB | 18 9 0 | 18 22 50 |
| 19 20 18 | MAR | 23 6 34 | 23 3 24 | 12 10 23 | MAR. | 19 21 44 | 20 11 5 |
| | APRIL | 21 19 18 | 21 12 55 | | APRIL | 18 10 28 | 18 20 38 |
| | MAY. | 21 8 2 | 20 23 29 | | О М | 8 4 50 | 8 1 7 |
| | JUNE. | 19 20 46 | 19 11 48 | | MAY . | 17 28 12 | 18 4 7 |
| | JULY. | $\begin{cases} 4 & 15 & 8 \\ 19 & 9 & 30 \end{cases}$ | 4 19 6 | | JUNE. | 16 11 56 | 16 10 48 |
| | Aug. | 17 22 14 | 19 2 11 | | JULY. | 16 0 40 | 15 17 41 |
| | SEPT. | 16 10 58 | 17 18 16 | | Aug | 14 18 24 18 2 8 | 14 1 54 |
| | Oct. | 15 23 42 | 16 11 19 16 4 23 | | OCT | | 12 12 28 |
| | Nov. | 14 12 26 | 16 4 25 14 20 31 | | Ост | ۲ | 12 1 46 |
| | DEC. | 14 1 10 | 14 11 3 | | Nov. | 11 8 86 | 27 14 41 |
| | | 7= 1 10 | TT TO | | DEC. | | 10 18 5 |
| | | | | | JEU. | 10 16 20 | 10 12 40 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|----------------|----------------------------|--------------|------------------------------------|------------------------------|
| A.D. 479. | | d. h. m. | d. h. m. | A.D. 482. | | d. h. m. | d. h. m. |
| March. | JAN | 9 5 5 | 9 8 7 | C. | JAN | 5 20 15 | 5 14 15 |
| d. $h.$ $m.$ | FEB | 7 17 49 | 8 2 46 | M | FEB | (4 8 59 | 4 2 54 |
| 19 22 28 | MAR | 9 6 33 | 9 19 12 | March. $d. h. m.$ | 0 | 19 3 21 | 19 17 1 |
| 1. | APRIL | 7 19 17 | 8 8 42 | 19 15 54 | MAR | 5 21 43 | 5 16 29 |
| | MAY. | 781 | 7 19 18 | | APRIL | 4 10 27 | 4 7 1 |
| | June. | 5 20 45 | 6 3 41 | | MAY . | 3 23 11 | 3 22 18 |
| | Jury. | 5 9 29 | 5 10 53 | | June . | 2 11 55 | 2 13 47 |
| | Aug | 3 22 13 | 3 18 2 | | JULY. | § 2 0 39 | 2 4 50 |
| | Sept | 2 10 57 | 2 2 7 | | JULX. | 31 13 23 | 31 18 54 |
| | Ocr | 1 23 41 | 1 12 0 | | 0 | ∫15 7 45 | 14 18 27 |
| l | | 31 12 25 | 31 0 16 | | Aug | 30 2 7 | 30 7 49 |
| | Nov | 30 1 9 | 29 15 2 | | SEPT | 28 14 51 | 28 19 46 |
| 1 | DEC | 29 13 53 | 29 8 1 | į | Oct | 28 3 35 | 28 7 8 |
| | | | | | Nov | 26 16 19 | 26 18 10 |
| 480. | JAN | 28 2 37 | 28 2 16 | | DEC | 26 5 3 | 26 5 1 |
| F.E. | FEB | 26 15 21 | 26 20 30 | 483. | JAN | 24 17 47 | 24 15 43 |
| | 0 | ∫12 9 43 | 12 11 3 | В. | FEB | 23 6 31 | 23 2 25 |
| 19 4 17 | MAR | 27 4 6 | 27 13 27 | 19 21 43 | MAR. | 24 19 15 | 24 13 31 |
| | APRIL | 25 16 50 | 26 4 10 | | APRIL | 23 7 59 | 23 1 32 |
| | MAY . | 25 5 34 | 25 16 18 | | MAY. | 22 20 43 | 22 14 53 |
| | JUNE. | 28 18 18 | 24 2 12 | | JUNE . | 21 9 27 | 21 5 34 |
| | JULY. | 23 7 2 | 23 10 42 | | 0 | (6 3 49 | 6 2 24 |
| | Aug | 21 19 46 | 21 18 49 | | JULY . | 20 22 11 | 20 21 11 |
| | 0 | 5 14 8 | 5 8 41 | | Aug. | 19 10 55 | 19 13 2 |
| | SEPT | 120 8 80 | 20 3 26 | | SEPT | 17 23 39 | 18 4 26 |
| | Oct | 19 21 14 | 19 13 16 | | Oct | 17 12 23 | 17 18 57 |
| 1 | Nov | 18 9 58 | 18 0 41 | | Nov. | 16 1 7 | 16 8 20 |
| | DEC | 17 22 42 | 17 13 52 | 1 | DEC. | (15 13 51 | 15 20 32 |
| | | | | | 0 | 130 8 18 | 30 6 33 |
| 481. | JAN | 16 11 26 | 16 4 42 | 404 | T | 14 2 35 | 14 7 35 |
| D. | FEB | 15 0 10 | 14 20 50 | 484. | JAN FEB | 14 2 35 12 15 20 | |
| | 0 | (1 18 82 | 2 8 33 | | MAR. | 13 4 4 | |
| 19 10 6 | MAR. | 16 12 54 | 1 | 19 3 32 | | 11 16 48 | |
| | APRIL | 15 1 88 | 15 6 10 | | APRIL MAY | 11 10 40 | |
| 1 | MAY . | 14 14 22 | 14 21 88 | | _ | (9 18 16 | |
| | JUNE . | 13 3 6 | 18 11 25 | | JUNE . | 24 12 38 | |
| | JULY . | 12 15 50 | 12 23 20 | | JULY. | 9 7 0 | |
| | Aug | (11 4 84 | 11 9 48 | | Aug. | 7 19 44 | 1 |
| | 0 | 25 22 56 | 25 10 15 | | SEPT. | 6 8 28 | |
| | SEPT | 9 17 18 | 9 19 33 | | Oct. | 5 21 12 | |
| | Ocr | 9 6 2 | 9 5 17 | | Nov. | 4 9 56 | |
| | Nov | 7 18 46 | 7 15 31 | | DEC. | (3 22 40 | 1 |
| | DEC | 7 7 80 | 7 2 28 | 11 | 0 | 18 17 2 | |
| | | | | | | | <u> </u> |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------|---|----------------------------|--------|------------------------------------|----------------|
| A.D. 485. | | d. h. m. | d. h. m. | A.D. 488. | | d. h. m. | d. h. m. |
| F. | JAN | 2 11 25 | 2 21 58 | C.B. | JAN | 29 15 19 | 29 21 80 |
| d. $h.$ $m.$ | FEB | 1 0 9 | 1 9 34 | d. h. m. | FEB | 28 4 3 | 28 15 4 |
| 19 9 21 | MAR | 2 12 53 | 2 19 16 | 19 2 47 | MAR | 28 16 47 | 29 6 0 |
| | | (1 1 37 | 1 3 34 | | 0 | (12 11 9 | 12 5 0 |
| | APRIL | 30 14 21 | 30 11 13 | | APRIL | 27 5 81 | 27 17 57 |
| | MAY . | 30 3 5 | 29 19 11 | | MAY . | 26 18 15 | 27 8 20 |
| | 0 | (13 21 27 | 14 6 43 | | June . | 25 6 59 | 25 11 8 |
| | JUNE . | (28 15 49 | 28 4 33 | | JULY . | 24 19 48 | 24 18 14 |
| | JULY. | 28 4 33 | 27 16 12 | | Aug | 23 8 27 | 28 1 58 |
| | Aug | 26 17 17 | 26 6 37 | t | SEPT | 21 21 11 | 21 10 55 |
| | SEPT | 25 6 1 | 24 23 34 | | 0 | (6 15 83 | 6 20 16 |
| 1 | Oct | 24 18 45 | 24 18 8 | | Ocr | 21 9 55 | 20 22 8 |
| | Nov | 23 7 29 | 23 12 57 | | Nov | 19 22 39 | 19 11 84 |
| | 0 | § 8 1 51 | 7 18 39 | | DEC | 19 11 28 | 19 8 26 |
| | DEC | (22 20 13 | 23 6 30 | | | | |
| 400 | - | 01 0 77 | 01 01 40 | 489. | JAN | 18 0 7 | 17 20 59 |
| 486. E. | JAN | 21 8 57 | 21 21 46 | Α. | FEB | 16 12 51 | 16 15 12 |
| | FEB. | 19 21 41 | 20 10 16 | 19 8 36 | MAR. | 18 1 85 | 18 8 45 |
| 19 15 10 | MAR | 21 10 25 19 23 9 | 21 20 12 | | 0 | (1 19 57 | 1 19 12 |
| | APRIL | 19 23 9 | 20 4 12 19 11 9 | | APRIL | 16 14 19 | 17 0 84 |
| | MAY. | 18 0 37 | | | MAY . | 16 8 8 | 16 18 59 |
| | JUNE . | 17 13 21 | $\begin{vmatrix} 17 & 18 & 4 \\ 17 & 2 & 8 \end{vmatrix}$ | | June. | 14 15 47 | 15 1 1 |
| | AUG. | 16 2 5 | 15 12 23 | | JULY. | 14 4 81 | 14 10 15 |
| | SEPT. | 14 14 49 | 14 1 34 | 1 | Aug | 12 17 15 | 12 18 87 |
| | OCT. | 14 3 33 | 13 17 45 | | SEPT | (11 5 59 | 11 8 5 |
| | Nov. | 12 16 17 | 12 12 20 | | 0 | 26 0 21 | 25 21 12 |
| 1 | DEC. | 12 5 1 | 12 7 56 | | Ocr | 10 18 48 | 10 12 26 |
| | DEC | | | | Nov | 9 7 27 | 8 28 7 |
| 487. | JAN | 10 17 46 | 11 2 50 | | DEC | 8 20 11 | 8 11 24 |
| D. | FEB | 9 6 30 | 9 19 31 | | | | |
| 19 20 59 | MAR | 10 19 14 | 11 9 13 | 490. | JAN | 7 8 56 | 7 1 17 |
| | APRIL | § 9 7 58 | 9 19 56 | G. | FEB | 5 21 40 | 5 16 85 |
| | 0 | 24 2 20 | 23 21 20 | 19 14 25 | MAR | 7 10 24 | 7 8 51 |
| | MAY. | 8 20 42 | 9 4 16 | | APRIL | 5 28 8 | 6 1 28 |
| 1 | June . | 7 9 26 | 7 11 13 | | MAY . | 5 11 52 | 5 17 28 |
| 1 | JULY. | 6 22 10 | 6 17 54 | , | JUNE . | 4 0 86 | 485 |
| | Aug | 5 10 54 | 5 1 24 | | JULY . | 8 18 20 | 8 21 2 |
| | SEPT | 3 23 38 | 3 10 45 | | Δ 77.0 | (224 | 2 8 24 |
| | Ост | 3 12 22 | 2 22 43 | | A.UG | (81 14 48 | 81 18 40 |
| 1. | 0 | (18 6 44 | 18 12 46 | | SEPT., | 80 8 82 | 80 4 85 |
| | Nov | 2 1 6 | 1 13 39 | | Ocr | 29 16 16 | 29 14 48 |
| | DEC | 1 13 50 | 1 7 13 | | Nov | 28 5 0 | 28 1 22 |
| | | (31 2 34 | 31 2 21 | | DEC | 27 17 44 | 27 12 41 |
| | | | | 71 () | H . | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|------------|------------------------------------|------------------------------------|
| A.D. 491. | - | d. h. m. | d. h. m. | A.D. 494. | | d. h. m. | d. h. m. |
| | Jan | 26 6 29 (10 0 51 | 26 0 42 10 14 29 | B. March. | JAN FEB | 22 21 39 21 10 23 | 23 8 20 21 18 49 |
| March. d. h. m. | FEB | 21 19 18 | 24 13 31 | d. h. m. 19 13 40 | MAR. | 22 23 7 | 28 3 34 |
| 19 20 14 | MAR | 26 7 57 | 26 8 16 | 10 10 10 | APRIL | 21 11 51 | 21 11 16 |
| | APRIL | 24 20 41 | 24 17 58 | | MAY. | 21 0 35 | 20 18 47 |
| | MAY . | 24 9 25 | 24 9 19 | | 0 | (4 18 57 | 5 4 8 |
| | June . | 22 22 9 | 28 0 89 | | June. | 19 13 19 | 19 3 12 |
| | July . | 22 10 58 | 22 15 24 | | July. | 19 2 3 | 18 13 34 |
| | Ö | (6 5 15 | 5 17 42 | | Aug. | 17 14 47 | 17 2 37 |
| | Aug | 20 23 37 | 21 5 10 | | SEPT | 16 3 31 | 15 18 28 |
| | SEPT | 19 12 21 | 19 17 52 | | Oct. | 15 16 15 | 15 12 33 |
| | Ocr | 19 1 5 | 19 5 45 | | Nov. | (14 4 59 | 14 7 36 |
| | Nov | 17 18 49 | 17 17 7 | | 0 | 28 23 21 | 28 17 13 |
| | DEC | 17 2 88 | 17 4 6 | | DEC | 13 17 48 | 14 2 4 |
| 492. | JAN | (15 15 17 | 15 14 47 | 495. | JAN | 12 6 27 | 12 18 38 |
| E. D. | 0 | £80 9 89 | 80 18 48 | Α. | FEB | 10 19 11 | 11 8 29 |
| | FEB | 14 4 1 | 14 1 14 | 19 19 29 | MAR | 12 7 55 | 12 19 33 |
| 19 2 8 | MAR | 14 16 45 | 14 11 47 | | APRIL | 10 20 39 | 11 4 17 |
| | APRIL | 18 5 29 | 12 23 0 | | MAY . | (10 9 23 | 10 11 30 |
| | MAY . | 12 18 18 | 12 11 27 | | 0 | 25 8 45 | 25 6 53 |
| | JUNE. | 11 6 57 | 11 1 21 | | June . | 8 22 7 | 8 18 14 |
| | July. | 510 19 41 | 10 16 84 | | July . | 8 10 51 | 8 1 35 |
| | 0 | 25 14 8 | 25 9 48 | | Aug | 6 23 35 | 6 10 39 |
| | Ava | 9 8 25 | 9 8 31 | | SEPT | 5 12 19 | 4 22 22 |
| | SEPT | 7 21 9 | 8 0 80 | | Ocr | 5 1 8 | 4 13 10 |
| | Our | 7 9 58 | 7 15 48 | | Nov | 5 8 18 47 | 3 6 47 |
| | Nov | 5 22 87 | 6 6 8 | | 0 | 18 8 9 | 18 8 50 |
| | DEC | 5 11 21 | 5 18 59 | | DEC | 8 2 31 | 3 2 7 |
| 493. | JAN | 4 0 6 | 4 6 89 | 496. | JAN | 1 15 16 | 1 21 84 |
| C. | ~0 | (18 18 28 | 18 18 17 | G.F. | ~ | (81 4 0 | 81 15 28 |
| | FEB. | 2 12 50 | 2 17 2 | | FEB | 29 16 44 | 1 6 89 |
| 19 7 52 | MAR. | 4 1 84 | 4 2 28 | 19 1 18 | MAR. | 80 5 28 | (30 18 48 |
| | APRIL | 2 14 18 | 2 11 12 | | APRIL | 28 18 12 | 29 4 4 |
| | MAY . | 2 8 2 | 1 20 15 | | | 18 12 34 | 13 7 48 |
| | | (81 15 46 | 81 6 26 | | MAY . | 28 6 56 | 28 11 34 |
| | Јимж. | 80 4 80 | 29 18 82 | | JUNE . | 26 19 40 26 8 24 | 26 18 16 26 1 18 |
| | O | 14 22 52 | 15 2 85 | | JULY. | 26 8 24 24 21 8 | 24 9 42 |
| | July. | (29 17 14 | 29 8 54 | | Aug. | 28 9 52 | 22 20 28 |
| | Aug. | 28 5 58 | 28 1 14 | | SEPT. | 28 9 52 | 22 20 26 |
| | SEPT. | 26 18 42 | 26 18 44 | | Ocr | | |
| | Oor. | 26 7 26 | 26 12 20 | | Nov. | 6 16 58 | |
| | Nov. | 24 20 10 | 25 4 55 | | | 21 0 4 | 20 20 41 |
| | DEC. | 24 8 54 | 24 19 41 | II. | DEC | 1 21 U 4 | 20 20 4L |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--|--|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 497. | | d. h. m. | d. h. m. | A.D. 500. | | d. h. m. | d. h. m. |
| Е. | JAN | 19 12 48 | 19 15 54 | B.A. | JAN | 17 8 58 | 16 22 55 |
| d March. d , h , m , | FEB | 18 1 32 | 18 10 17 | | FEB. | 15 16 42 | 15 11 2 |
| d. h. m. 19 7 7 | Mar. | 19 14 16 | 20 2 33 | March. | 0 | (1114 | 2 0 58 |
| | APRIL | 18 3 0 | 18 15 55 | d. h. m. 19 0 34 | MAR | 16 5 26 | 16 0 0 |
| | MAY. | 17 15 44 | 18 2 30 | 10 001 | APRIL | 14 18 10 | 14 18 59 |
| | JUNE . | 16 4 28 | 16 10 59 | | MAY. | 14 6 54 | 14 4 52 |
| | JULY. | 15 17 12 | 15 18 24 | | June . | 12 19 88 | 12 20 18 |
| | Aug. | 14 5 56 | 14 1 51 | | JULY. | 12 19 58 | |
| | SEPT. | 12 18 40 | 12 10 16 | | | | 12 11 27 |
| | Oct | 12 13 40 | 11 20 25 | | Aug | (10 21 6 | 11 1 57 |
| | Nov. | 10 20 8 | 10 8 45 | | 0 | 25 15 28 | 25 2 25 |
| | ~ | 10 20 8 | | | SEPT | 9 9 50 | 9 15 28 |
| | DEC | 10 0 02 | 9 23 26 | | Ocr | 8 22 84 | 9 4 1 |
| | _ // | | | | Nov | 7 11 18 | 7 15 51 |
| 498. | JAN | 8 21 37 | 8 16 5 | | Dec | 7 0 2 | 7 8 7 |
| D. | FEB | 7 10 21 | 7 9 54 | 501. | Tim | E 10 40 | E 40 55 |
| 19 12 56 | MAR | 8 23 5 | 9 3 44 | G. | JAN | 5 12 46 | 5 18 55 |
| | 0 | 23 17 27 | 23 19 5 | 10 000 | FEB | 4 1 81 | 4 0 18 |
| | APRIL | 7 11 49 | 7 20 23 | 19 6 22 | MAR | 5 14 15 | 5 10 81 |
| | MAY. | 7 0 33 | 7 11 0 | | APRIL | 4 2 59 | 8 21 2 |
| | June . | 5 13 17 | 5 23 15 | | MAY . | 8 15 48 | 8 8 88 |
| | July. | 5 2 1 | 5 9 24 | | June. | 2 4 27 | 1 21 81 |
| | Aug | 3 14 45 | 3 18 17 | | July . | 1 17 11 | 1 12 5 |
| | SEPT | $\begin{cases} 2 & 3 & 29 \end{cases}$ | 2 2 50 | | A | 81 5 55 | 81 8 51 |
| | 0 | (16 21 51 | 16 15 54 | | Aug | 29 18 89 | 29 20 7 |
| | Oct | $\int 1 16 13$ | 1 11 52 | | SEPT | 28 7 28 | 28 12 8 |
| | | (31 4 57 | 30 21 58 | | Oct | 27 20 7 | 28 8 14 |
| | Nov | 29 17 41 | 29 9 28 | | Nov | 26 8 51 | 26 17 2 |
| | DEC | 29 6 25 | 28 22 26 | | DEC | 25 21 86 | 26 5 24 |
| 400 | Jan | 27 19 10 | 97 19 50 | | 0 | 5 9 15 58 | 9 12 52 |
| 499. c. | FEB. | 26 7 54 | 27 12 50 26 4 24 | 502. | JAN | 24 10 20 | 24 16 21 |
| - | 0 | (13 2 16 | 26 4 24 13 11 42 | F. | FEB | 22 28 4 | 28 2 0 |
| 19 18 45 | MAR. | 27 20 38 | 27 20 38 | 19 12 11 | MAR. | 24 11 48 | 24 10 47 |
| 10 10 10 | APRIL | 26 9 22 | 26 12 51 | | APRIL | 28 0 82 | 22 19 22 |
| | MAY . | 25 22 6 | 26 4 13 | | MAY. | 22 18 16 | 22 4 41 |
| | JUNE . | 24 10 50 | | | June. | 21 2 0 | 20 15 88 |
| | JULY. | 23 23 34 | $ \begin{array}{ccccccccccccccccccccccccccccccccc$ | | 0 | 5 20 22 | 6 2 17 |
| | AUG. | 22 12 18 | 22 17 27 | | JULY . | 20 14 44 | 20 4 50 |
| | 0 | (6 6 40 | 5 17 38 | | Aug | 19 8 28 | 18 20 19 |
| | SEPT. | 21 1 2 | 21 3 44 | | SEPT | 17 16 12 | 17 18 88 |
| * | Oct. | 20 13 46 | 20 13 54 | | Oct | 17 4 56 | 17 7 80 |
| | Nov. | 19 2 30 | | | Nov | 15 17 40 | 16 0 55 |
| | DEC. | 18 15 14 | | ' | DEC | 515 6 24 | 15 16 50 |
| 1 | | 10 10 14 | 18 11 24 | | 0 | 280 0 46 | 29 16 84 |
| | l. | | | | | | |

| According Acco | | | 1 | | | | | |
|--|----------|---------|-----------|------------|----------|----------|----------|------------------------------------|
| Solution | Vernal | Month. | Moon. | Moon. | Vernal | Month. | Moon. | True New Moon. (O Full Ecl.) |
| March. d. h. m. 19 18 0 MAR 13 20 36 14 3 25 MAR 12 9 20 12 11 22 MAR 11 22 4 11 18 41 JUNE . [10 10 48 10 2 25 JULY . 9 28 32 9 11 38 AUG 8 12 16 7 7 23 17 SEFT 7 1 0 6 18 50 OCT 6 18 44 6 7 4 NOV 5 2 23 5 1 57 DEC { 4 15 12 4 21 1 | 503. | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| The color of the | | JAN | 13 19 8 | 14 6 35 | | JAN | 10 10 18 | 10 10 14 |
| 19 18 0 | | FEB | 12 7 52 | 12 18 1 | | | 8 23 2 | 1 |
| APRIL MAY . 11 22 4 11 18 41 June . \$\) \begin{array}{c ccccccccccccccccccccccccccccccccccc | | MAR | 13 20 36 | 14 3 25 | | | | ' ' ' |
| MAY . 11 22 4 11 18 41 June . {10 10 48 10 2 25 | | APRIL | 12 9 20 | 12 11 22 | | | | 1 |
| June | | MAY . | 11 22 4 | 11 18 41 | | | 12 | |
| O | | JUNE. | (10 10 48 | | | _ | | 1 |
| July . 9 28 32 9 11 38 Aug 8 12 16 7 23 17 Sept 7 1 0 6 18 50 Oct . 6 18 44 6 7 4 Nov 5 2 28 5 1 157 Dec {4 15 12 4 21 1 O {17 28 16 18 26 80 29 80 19 82 9 80 19 82 9 80 19 80 19 80 29 80 19 8 | | 0 | 25 5 10 | | | | | |
| Aug 8 12 16 7 23 17 | | JULY. | 9 23 32 | | | | 1 | |
| SEPT 7 1 0 6 13 50 OCT 6 13 44 6 7 4 NOV 5 2 23 5 1 57 DEC {4 15 12 4 21 1 O 1 16 41 2 6 2 B18 23 49 MAR {2 5 25 2 18 22 B1 18 9 7 29 18 36 JUNE . 28 8 21 28 1 29 JULY . 27 21 5 27 9 35 AUG 26 9 49 25 19 56 SEPT 20 11 17 NOV 28 0 1 22 20 18 DEC 24 11 17 NOV 28 0 1 22 20 18 DEC 24 11 17 NOV 28 0 1 22 20 18 DEC 22 12 45 22 15 55 SEPT 20 8 50 12 16 52 NOV 20 15 11 20 75 DEC 4 16 40 6 7 4 NOV 117 88 6 18 4 7 NOV 17 8 16 18 4 7 NOV 17 8 16 18 4 7 NOV 28 6 21 SEPT 3 16 10 3 9 55 OCT 4 15 12 4 21 1 O 0 7 11 17 88 6 16 22 SEPT 3 16 10 3 9 55 OCT 4 15 12 4 21 1 O 0 11 41 SEPT 3 16 10 3 9 55 OCT 4 15 12 4 21 1 O 0 7 11 17 88 6 16 22 SEPT 2 16 18 4 7 NOV 20 7 51 29 4 50 SEPT 20 8 50 11 21 50 SEPT 3 16 10 3 9 55 OCT 4 15 12 4 21 1 O 0 7 17 8 6 16 22 SEPT 3 16 10 3 9 55 OCT 4 15 12 26 2 18 22 SEPT 20 85 27 22 34 SEPT 3 16 10 3 9 55 OCT 4 15 12 26 2 18 22 SEPT 20 85 27 22 34 SEPT 3 16 10 18 4 7 NOV 20 7 51 29 4 50 SEPT 20 85 27 22 34 SEPT 20 85 27 22 34 SEPT 3 16 10 18 4 7 NOV 20 7 51 29 4 50 SEPT 20 85 51 19 10 SEPT 14 7 22 18 18 43 OCT (13 20 6 18 6 52 OCT (1 | | Aug | | L | | | 1 . | |
| Oct. 6 18 44 6 7 4 Nov. 5 2 28 5 1 57 Dec { 4 15 12 4 21 1 O | | SEPT | | | | | | |
| Nov. 5 2 28 5 1 57 Dec. 4 15 12 4 21 1 11 7 38 30 20 5 | | Ост. | 6 13 44 | | | | | |
| Dec. \begin{array}{c c c c c c c c c c c c c c c c c c c | 3 | | | | | |) | |
| 504. b.c. Feb. 1 16 41 2 6 2 | | DEC. | (4 15 12 | | | | • | |
| 504. DEC. 30 19 6 30 11 41 DEC. 30 19 6 30 | | 0 | 119 9 31 | | | 21011 | | |
| 504. b.c. Jan. 3 3 57 3 14 46 b.c. Feb. 1 16 41 2 6 2 2 8 22 6 8 18 9 4 4 4 4 4 4 4 4 4 | | | | | | DEC |) - · | 20 11 41 |
| No. Feb. 1 16 41 2 6 2 507. Jan. 29 7 51 29 4 50 6 | 504 | Tax | 9 9 57 | 9 14 40 | | | (00 10 0 | 00 11 11 |
| 18 28 49 Mar \begin{array}{c c c c c c c c c c c c c c c c c c c | | | | | | - | 00 7 74 | 00 1 10 |
| MAR. (31 18 9 14 4 4 10 19 17 15 MAR. 29 9 19 29 15 45 45 45 45 45 45 45 45 45 45 45 45 45 | | E 1515. | | | | | | |
| APRIL 80 6 58 (30 11 49 NAY . 29 19 37 29 18 36 JUNE . 28 8 21 28 1 29 JULY . 27 21 5 27 9 85 AUG 26 9 49 25 19 56 SEPT 24 22 38 24 9 15 OCT 24 11 17 24 1 37 Nov 28 0 1 22 20 18 DEC 22 12 45 22 15 55 B. Feb 19 14 14 20 3 19 19 5 88 MAR 21 2 58 21 16 52 APRIL 19 15 42 20 3 26 APRIL 19 15 42 20 3 26 APRIL 19 15 42 20 3 26 APRIL 19 17 10 17 18 40 JULY . 17 5 54 17 1 28 AUG 15 18 38 15 9 10 SEPT 12 9 48 12 15 48 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (13 20 6 18 652 OCT (10 11 16 10 13 48 Nov 12 8 50 11 21 52 OCT (10 11 16 10 13 48 Nov 9 0 0 8 23 38 40 Nov 9 0 0 0 8 23 38 40 Nov | 18 28 49 | MAR | 12 | | | | | |
| MAY . 29 19 37 29 18 36 June . 28 8 21 28 1 29 July . 27 21 5 27 9 35 Aug 26 9 49 25 19 56 Shft . 24 22 38 24 9 15 Oct 24 11 17 24 1 37 Nov 28 0 1 22 20 18 Dec 22 12 45 22 15 55 B. Feb 19 14 14 20 3 19 19 5 88 Mar 21 2 58 21 16 52 April 19 15 42 20 3 26 April 19 16 65 2 16 8 10 May . 15 19 36 15 23 56 June . 17 17 10 17 18 40 July . 17 5 54 17 1 28 Aug 15 18 38 15 9 10 Shft . 14 7 22 18 18 43 Oct (13 20 6 13 652 O (28 14 28 28 21 12 Nov 12 8 50 11 21 52 Nov 9 0 0 8 23 38 | | A | 1 ' | J - 7 - 1 | 19 17 15 | | | |
| June. 28 8 21 28 1 29 July. 27 21 5 27 9 85 Aug. 26 9 49 25 19 56 Sept. 24 22 98 24 9 15 Oct. 24 11 17 24 1 37 Nov. 28 0 1 22 20 18 Dec. 22 12 45 22 15 55 B. Feb. 19 14 14 20 3 19 19 5 88 Mar. 21 2 58 21 16 52 April 19 15 42 20 3 26 April 19 15 42 20 3 26 April 19 17 10 17 18 40 June. 17 17 10 17 18 40 June. 17 17 10 17 18 40 July. 17 5 54 17 1 28 Aug. 12 8 50 11 21 52 Oct. (13 20 6 18 6 52 Oct. (13 20 6 18 6 52 Oct. (13 20 6 18 6 52 Oct. (13 20 6 18 6 52 Oct. (13 20 6 18 6 52 Oct. (13 20 6 18 6 52 Oct. (10 11 16 10 18 48 Nov. 10 9 0 0 8 23 86 Sept. 10 20 20 8 26 Sept. 10 47 27 20 49 June. 12 8 50 11 21 52 Nam. 27 10 47 27 20 49 June. 25 12 15 25 17 40 Aug. 24 0 59 24 2 29 July. 25 12 15 25 17 40 Aug. 22 18 48 22 21 12 Nam. 22 18 48 22 21 12 Nov. 20 15 11 20 7 57 Dec. 20 8 55 19 20 8 Jan. 18 16 40 18 9 40 Feb. 17 5 24 17 0 28 May. 15 19 36 15 23 56 July. 13 21 4 14 3 57 Aug. 12 9 48 12 15 48 Sept. 10 22 32 11 2 8 Oct. 10 11 16 10 13 4 Nov. 12 8 50 11 21 52 | | | | ' ' | | | 17 | |
| July . 27 21 5 27 9 85 Aug 26 9 49 25 19 56 Sept 24 22 83 24 9 15 Oct 24 11 17 24 1 87 Nov 28 0 1 22 20 18 Dec 22 12 45 22 15 55 505. B. Feb 19 14 14 20 8 19 19 5 88 Mar 21 2 58 21 16 52 April 19 15 42 20 8 26 O | | | 1 . | | | | | |
| Aug. 26 9 49 25 19 56 Sept. 24 22 98 24 9 15 Oct. 24 11 17 24 1 37 Nov. 28 0 1 22 20 18 Dec. 22 12 45 22 15 55 505. B. Feb. 19 14 14 20 3 19 19 5 88 Mar. 21 2 58 21 16 52 April 19 15 42 20 3 26 April 19 15 42 20 3 26 April 19 17 10 17 18 40 June 17 17 10 17 18 40 July 2 13 18 38 15 9 10 Sept. 12 9 48 12 15 48 Oct. 3 13 20 6 18 6 52 Oct. 4 12 9 48 12 15 48 Oct. 6 12 14 28 28 21 12 Nov. 12 8 50 11 21 52 Oct. 10 11 16 10 13 44 Nov. 9 0 0 8 23 38 | 317 | | | | | | | |
| SEPT. 24 22 38 24 9 15 Oct. 24 11 17 24 1 37 Nov. 28 0 1 22 20 18 Dec. 22 12 45 22 15 55 B. Feb. 19 14 14 20 3 19 19 5 88 Mar. 21 2 58 21 16 52 April 19 15 42 20 3 26 April 19 15 42 20 3 26 Oct. 4 10 4 4 4 10 May 17 17 10 17 18 40 July 17 5 54 17 1 28 Aug. 15 18 88 15 9 10 Sept. 14 8 20 11 24 8 28 21 12 Nov. 12 8 50 11 21 52 Nov. 9 0 0 8 23 38 | | | | | | | | |
| Oct 24 11 17 24 1 37 Nov 28 0 1 22 20 18 Dec 22 12 45 22 15 55 B. Dec 21 1 30 21 10 45 B. Feb 19 14 14 20 3 19 19 5 88 Mar 21 2 58 21 16 52 April 19 15 42 20 3 26 O | | | | | | | | |
| Nov. 28 0 1 22 20 18 Dec. 22 12 45 22 15 55 Dec. 22 12 45 22 15 55 Dec. 20 15 11 20 7 57 Dec. 20 15 11 20 7 57 Dec. 20 8 55 19 20 8 Dec. 20 8 55 19 2 | | | | | | | | |
| DEC 22 12 45 22 15 55 OCT 22 2 27 21 21 6 | | | | | | | | |
| 505. B. Jan. 21 1 30 21 10 45 FEB. 19 14 14 20 3 19 19 5 88 Mar. 21 2 58 21 16 52 April 19 15 42 20 3 26 O {4 10 4 4 4 10 10 17 18 40 June 17 17 10 17 18 40 July 17 5 54 17 1 28 Aug. 15 18 88 15 9 10 Sept. 14 7 22 13 18 43 Out. (13 20 6 18 652 O {28 14 28 28 21 12 Nov. 12 8 50 11 21 52 Nov. 20 15 11 20 7 57 Dec. 20 3 55 19 20 8 Nov. 20 15 11 20 7 57 Dec. 20 3 55 19 20 8 Nov. 18 16 40 18 9 40 FEB. 17 5 24 17 0 28 Mar. 17 18 8 17 16 4 April 16 6 52 16 8 10 July 15 19 36 15 23 56 June 14 8 20 14 14 40 July 18 21 4 14 3 57 Aug. 12 9 48 12 15 48 Sept. 10 22 32 11 2 85 Oct. 10 11 16 10 13 44 Nov. 9 0 0 8 23 38 | | | | 1 | | | 1) | |
| 505. B. JAN. 21 1 80 21 10 45 FEB. 19 14 14 20 3 19 7 9 5 88 MAR. 21 2 58 21 16 52 APRIL 19 15 42 20 3 26 FEB. 17 5 24 17 0 28 18 28 4 MAR. 17 18 8 17 16 4 MAY 15 19 36 15 23 56 JULY 17 5 54 17 1 28 AUG. 15 18 88 15 9 10 SEPT. 14 7 22 13 18 43 OUT. 12 8 50 11 21 52 Nov. 12 8 50 11 21 52 Nov. 9 0 0 8 23 38 | | DEC | 22 12 45 | . 22 19 99 | | | (| |
| B. FEB 19 14 14 20 8 19 19 5 88 MAR 21 2 58 21 16 52 APRIL 19 15 42 20 8 26 O | | | | | | | | |
| 19 5 88 MAR 21 2 58 21 16 52 508. JAN 18 16 40 18 9 40 17 0 28 18 18 19 19 15 42 20 3 26 F.E. FEB 17 5 24 17 0 28 18 28 4 MAR 17 18 8 17 16 48 19 11 42 19 17 17 10 17 18 40 JULY . 17 5 54 17 1 28 JUNE . 15 19 36 15 23 56 JULY . 15 18 88 15 9 10 Sept 14 7 22 13 18 43 Out 15 18 38 15 9 10 Sept 14 7 22 13 18 43 Out 15 18 36 15 23 56 Sept 14 7 22 13 18 43 Out 17 18 20 6 18 652 Out 10 11 16 10 13 48 Nov 12 8 50 11 21 52 Nov 9 0 0 8 23 38 | | | 1 | 1 | | DEC | 20 5 55 | 19 Z0 8 |
| APRIL 19 15 42 20 8 26 F.E. FEB 17 5 24 17 0 28 18 28 4 MAR 17 18 8 17 16 48 MAY . 19 4 26 19 11 42 JUNE . 17 17 10 17 18 40 JULY . 17 5 54 17 1 28 JUNE . 15 19 36 15 23 56 JULY . 15 18 38 15 9 10 Sept 14 7 22 13 18 43 Oct 13 20 6 13 652 Oct 10 11 16 10 13 48 Nov 12 8 50 11 21 52 Nov 9 0 0 8 23 35 | | | | | | | | |
| O { 4 10 4 4 4 10 18 28 4 Mar. 17 18 8 17 16 4 May 19 4 26 19 11 42 May 15 19 36 15 23 56 July 17 17 10 17 18 40 July 17 5 54 17 1 28 June 14 8 20 14 14 40 Aug 15 18 38 15 9 10 July 13 21 4 14 3 57 Sept. 14 7 22 13 18 43 Aug 12 15 48 Oct. 3 20 6 18 6 52 Oct. 10 22 32 11 2 38 Oct. 12 8 50 11 21 52 Nov. 9 0 0 8 23 38 Sept. 10 20 3 2 18 28 28 28 28 28 28 28 28 28 28 28 28 28 | 19 5 88 | | | 1 1 | | | | |
| MAY . \(\begin{array}{c ccccccccccccccccccccccccccccccccccc | | APRIL | | | | | | |
| June. 17 17 10 17 18 40 May. 15 19 36 15 23 56 July. 17 5 54 17 1 28 June. 14 8 20 14 14 40 Aug 15 18 38 15 9 10 July. 13 21 4 14 3 57 Sept 14 7 22 13 18 48 Aug 12 9 48 12 15 48 Oct 13 20 6 13 6 52 Sept 10 22 32 11 2 38 O 28 14 28 28 21 12 Oct 10 11 16 10 13 4 Nov 12 8 50 11 21 52 Nov 9 0 0 8 23 38 | | |] | | 18 23 4 | | | |
| July . 17 5 54 17 1 28 June . 14 8 20 14 14 40 Aug 15 18 88 15 9 10 July . 13 21 4 14 3 57 Skft 14 7 22 13 18 43 Aug 12 9 48 12 15 48 Oct 13 20 6 13 6 52 Skft 10 22 32 11 2 38 O (28 14 28 28 21 12 Oct 10 11 16 10 13 4 Nov 12 8 50 11 21 52 Nov 9 0 0 8 23 38 | | | , | | | | | |
| Aug 15 18 88 15 9 10 July . 13 21 4 14 3 57 Sept 14 7 22 13 18 48 Aug 12 9 48 12 15 48 Oct | | | | | | | | 15 23 56 |
| Sept. 14 7 22 13 18 43 Aug. 12 9 48 12 15 48 Oct \ \{13 20 6 18 6 52 \\ \(\) \(| | | | | | | | 14 14 40 |
| OCT {13 20 6 13 6 52 SEPT 10 22 32 11 2 38 OCT 10 11 16 10 13 4 Nov 12 8 50 11 21 52 Nov 9 0 0 8 23 35 | | | | | | JULY. | | |
| O 128 14 28 28 21 12 12 12 10 11 16 10 13 4 Nov. 12 8 50 11 21 52 10 11 16 10 13 4 Nov. 9 0 0 8 23 35 | | | | | | | | 12 15 48 |
| Nov 12 8 50 11 21 52 Nov 9 0 0 8 23 35 | | | | | | | | |
| | | 0 | 1 ' | | | Ocr | 10 11 16 | 10 13 4 |
| DEC. 11 21 84 11 15 20 DEC. 8 12 44 8 10 21 | | | | | | Nov | 9 0 0 | 8 23 33 |
| | | DEC | 11 21 34 | 11 15 20 | | DEC | 8 12 44 | 8 10 21 |
| | | | | | t e | | | |

| Mean Vernal Equinox. | Month. | Mean New M on. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|----------------|------------------------------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 509. | | d. h. m. | d. h. m. | A.D. 512. | | d. h. m. | d. h. m. |
| D. | JAN | 7 1 28 | 6 21 29 | March. | JAN | 4 16 38 | 5 4 16 |
| March. | FEB | (5 14 12 | 5 9 4 | d. h. m. | FEB | 8 5 22 | 8 16 49 |
| d. h. m. | 0 | 20 8 34 | 20 22 27 | 18 22 20 | MAR | 3 18 6 | 4 8 8 |
| 19 4 53 | MAR | 7 2 56 | 6 21 17 | | APRIL | 2 6 50 | 2 11 29 |
| | APRIL | 5 15 40 | 5 10 27 | | | (1 19 84 | 1 18 50 |
| | MAY . | 5 4 24 | 5 0 39 | | MAY. | (31 8 18 | 81 2 7 |
| | JUNE . | 3 17 8 | 3 15 45 | | 0 | (15 2 40 | 15 10 52 |
| | JULY. | 3 5 52 | 3 7 9 | | JUNE . | 29 21 2 | 29 10 28 |
| | | 1 18 36 | 1 22 15 | 1 | July. | 29 9 46 | 23 20 42 |
| | Aug. O | 16 12 58 | 16 1 21 | | Aug | 27 22 30 | 27 9 51 |
|) ; | 1200.0 | 31 7 20 | 31 12 33 | Į | SEPT | 26 11 14 | 26 1 55 |
|] | SEPT | 29 20 4 | 30 1 53 | | Oct. | 25 23 58 | 25 20 15 |
| 1 | Oct | 29 8 48 | 29 14 19 | | | 24 12 42 | 24 15 84 |
| | Nov. | 27 21 32 | 28 2 1 | | Nov | (9 7 4 | 9 2 7 |
| | DEC. | 27 10 16 | 27 13 3 | | 0 | , | 24 10 18 |
| | DEC | 21 10 16 | 21 15 5 | | DEC | 124 1 26 | 24 10 15 |
| 510. | JAN | 25 23 1 | 25 23 31 | 513. | JAN | 22 14 11 | 28 2 50 |
| c. | 0 | (9 17 23 | 10 1 3 | F. | FEB | 21 2 55 | 21 16 86 |
| | FEB | 24 11 45 | 24 9 32 | 19 4 8 | MAR | 22 15 89 | 28 8 27 |
| 19 10 42 | MAR | 26 0 29 | 25 19 33 | | APRIL | 21 4 28 | 21 11 58 |
| | APRIL | 24 13 13 | 24 6 13 | | MAY . | 20 17 7 | 20 19 1 |
| | MAY . | 24 1 57 | 23 18 12 | | 0 | (4 11 29 | 4 18 19 |
| | JUNE . | 22 14 41 | 22 7 53 | | JUNE . | 19 5 51 | 19 1 40 |
| | JULY . | 22 3 25 | 21 23 9 | | JULY. | 18 18 85 | 18 9 8 |
| | 0 | (5 21 47 | 5 17 27 | | Ang. | 17 7 19 | 16 18 18 |
| | Aug | 20 16 9 | 20 15 27 | | SEPT. | 15 20 8 | 15 6 4 |
| | SEPT | 19 4 53 | 19 7 57 | | Oct | 15 8 47 | 14 21 1 |
| | Oct | 18 17 37 | 18 23 51 | | Nov. | (18 21 81 | 18 14 48 |
| | Nov | 17 6 21 | 17 14 35 | | 0 | 28 15 58 | 28 17 48 |
| | DEC | 16 19 5 | 17 3 48 | | Drc | 18 10 15 | 18 10 4 |
| | | | | | | | |
| 511. B. | JAN | (15 7 49 | 15 15 26 | 514. E. | JAN | 11 22 59 | 12 5 27 |
| Б. | 0 | (30 2 11 | 30 2 0 | i l | FEB | 10 11 48 | 10 28 15 |
| 10.10.5 | FEB | 13 20 33 | 14 1 34 | 19 9 57 | MAR | 12 0 27 | 12 14 17 |
| 19 16 31 | MAR | 15 9 17 | 15 10 80 | | APRIL | 10 18 11 | 11 2 18 |
| | APRIL | 13 22 1 | 13 18 52 | | MAY. | $\int 10 - 1.55$ | 10 11 28 |
| | MAY. | 13 10 45 | 13 3 29 | | 0 | 24 20 17 | 24 14 24 |
| | June . | 11 23 29 | 11 13 23 | | June. | 8 14 89 | 8 18 58 |
| | JULY. | §11 12 13 | 11 1 19 | | July. | 8 8 28 | 8 1 46 |
| | . 0 | (26 6 35 | 26 10 6 | | Aug | 6 16 7 | 6 9 0 |
| | Aug | 10 0 57 | 9 15 43 | | SEPT | 5 4 51 | 4 17 87 |
| | SEPT | 8 13 41 | 8 8 20 | | Oct | 4 17 85 | 4 4 81 |
| | Oct | 8 2 25 | 8 2 17 | | Nov | 8 6 19 | 2 18 9 |
| | Nov | 6 15 9 | 6 20 20 | | 0 | 18 0 41 | 18 7 59 |
| | DEC | 6 3 53 | 6 13 18 | | DEC | 2 19 8 | 2 10 26 |
| | | | | | | | |

| , | | | | | | | |
|----------------------------|------------|--|------------------------------------|----------------------------|-------------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 515. | | d. h. m. | d. h. m. | A.D. 518. | | d. h. m. | d. h. m. |
| | JAN | $\begin{cases} 1 & 7.48 \\ 30 & 20.32 \end{cases}$ | 1 4 40 30 23 36 | u. | JAN | 27 11 42 26 0 26 | 27 7 29 |
| March. | FEB | | | March. | FEB | (12 18 48 | 25 19 5 13 8 46 |
| d. h. m. | Mr. n | ſ 1 9 16 | 1 17 43 | d. h. m. 19 9 13 | MAR. | 27 13 10 | 27 7 26 |
| 19 15 46 | MAR | l30 22 0 | 31 9 44 | | APRIL | 26 1 54 | 25 20 52 |
| | APRIL | 29 10 44 | 29 23 1 | | MAY . | 25 14 38 | 25 11 22 |
| | MAY. | 28 23 28 | 29 9 40 | | June . | 24 3 22 | 24 2 40 |
| | JUNE. | 27 12 12 | 27 18 19 | | JULY. | 23 16 6 | 23 18 8 |
| | July. | 27 0 56 25 13 40 | 27 2 1 | | Aug | 22 4 50 | 22 9 7 |
| | Aug | 24 2 24 | 25 9 47 23 18 33 | | 0 | 5 23 12 | 5 10 15 |
| | Oct | 23 15 8 | 23 4 57 | | SEPT | 20 17 34 | 20 23 16 20 12 24 |
| | Nov. | 22 3 52 | 21 17 22 | | Nov. | 18 19 2 | 19 0 39 |
| | DEC | 21 16 36 | 21 7 51 | | DEC. | 18 7 46 | 18 12 6 |
| 516. | 7 | 00 5 00 | 00 0 0 | | | 10 . 20 | |
| C.B. | JAN FEB | 20 5 20 18 18 4 | 20 0 6 18 17 26 | 519. | Jan | 16 20 30 | 16 22 46 |
| 18 21 85 | MAR. | 19 6 49 | 19 10 49 | F. | FEB. | 15 9 14 | 15 8 46 |
| | 0 | 3 1 11 | 3 2 59 | 19 15 1 | MAR. | 16 21 59 | 16 18 29 |
| | APRIL | 17 19 33 | 18 3 12 | | APRIL | 15 10 43 | 15 4 28 |
| | MAY. | 17 8 17 | 17 17 45 | | MAY . | 14 23 27 | 14 15 20 |
| | JUNE. | 15 21 1 | 16 6 10 | | June . | 13 12 11 | 13 4 9 |
| | July. | 15 9 45 | 15 16 40 | | JULY. | 18 0 55 | 12 18 39 |
| | Aug | 18 22 29 | 14 1 57 | | Aug. | 11 13 39 | 11 10 38 |
| | SEPT | ∫12 11 13 | 12 10 58 | | SEPT | 10 2 23 | 10 3 22 |
| | 0 | 127 5 85 | 26 23 18 | | Oct | 9 15 7 | 9 19 56 |
| | Oct | 11 28 57 | 11 20 25 | | Nov Dec | 8 3 51 7 16 35 | 8 11 34 8 1 45 |
| | Nov Dec | 10 12 41 | 10 6 48 9 18 19 | | DEC | . 10 50 | 0 1 40 |
| | | | 15 | 520. | JAN | (6 5 19 | 6 14 13 |
| 517. | JAN | 8 14 9 | 8 7 0 | E.D. | O AN | 20 23 41 | 20 20 46 |
| 19 8 24 | FEB MAR | 7 2 58 | 6 20 53 8 11 51 | | FEB | 4 18 3 | 5 0 58 |
| 10 0 24 | O | 23 9 59 | 23 19 40 | 18 20 50 | MAR | 5 6 47 | 5 10 16 |
| | APRIL | 7 4 21 | 7 8 32 | | APRIL | 3 19 31 | 3 18 37 |
| | MAY. | 6 17 5 | 6 19 24 | | MAY. | 3 8 15 | 3 2 48 |
| | June . | 5 5 49 | 5 10 42 | 1 | June . | 1 20 59 | 1 11 46 |
| | July. | 4 18 33 | 5 0 52 | | _ | 1 9 43 | 30 22 29 |
| | Aug | 3 7 17 | 3 13 37 | | July O | 316 4 5 | 16 9 38 |
| | SEPT | ∫ 1 20 1 | 2 1 11 | | A 77.~ | 29 11 11 | 30 11 41 29 3 21 |
| | 0 | (16 14 28 | 16 1 11 | | AUG SEPT | 29 11 11 27 28 55 | 27 20 56 |
| | Oct | 1 8 45 | 1 12 1 | | Oct. | 27 12 39 | 27 15 18 |
| | | (30 21 29 | 30 22 39 | | Nov. | 26 1 23 | 26 9 8 |
| | Nov Dec | 29 10 13 28 22 57 | 29 9 28 28 20 19 | | DEC | 25 14 7 | 26 1 18 |
| | LIFIG | 20 22 31 | 20 20 18 | | | | |

| Mean Vernal Equinox. | Month. | Mean New . Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon, (O Full Ecl.) |
|----------------------------|--------|--------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 521. | | d. h. m. | d. h. m. | A.D. 524. | | d. h. m. | d. h. m. |
| C. | 0 | (9830 | 9 0 57 | G.F. | JAN | 21 18 2 | 21 18 3 |
| Manak | JAN | 24 2 52 | 24 15 5 | d March. d h m . | FEB | 20 6 46 | 20 12 34 |
| d h . m . | FEB | 22 15 36 | 23 2 20 | 18 20 5 | MAR | 20 19 30 | 21 5 37 |
| 19 2 39 | MAR | 24 4 20 | 24 11 27 | | APRIL | 19 8 14 | 19 20 15 |
| | APRIL | 22 17 4 | 22 19 4 | | 0 | (4 2 36 | 3 19 40 |
| | MAY . | 22 5 48 | 22 2 8 | | MAY. | 18 20 58 | 19 8 10 |
| | June . | 20 18 32 | 20 9 41 | • | June . | 17 9 42 | 17 17 47 |
| | 0 | (5 12 54 | 5 20 31 | | July. | 16 22 26 | 17 1 58 |
| | JULY. | 20 7 16 | 19 18 50 | | Aug. | 15 11 10 | 15 9 45 |
| | Aug | 18 20 0 | 18 6 33 | | SEPT. | 13 23 54 | 13 18 7 |
| | SEPT. | 17 8 44 | 16 21 15 | | _ | | |
| | Oct | | | | Oct | 13 12 38 | 13 3 48 |
| i | | 16 21 28 | 16 14 42 | | 0 | (28 7 0 | 28 12 4 |
| | Nov | 15 10 12 | 15 9 49 | | Nov | 12 1 22 | 11 15 14 |
| | DEC | 14 22 56 | 15 5 6 | | DEC | 11 14 6 | 11 4 39 |
| | 0 | (29 17 18 | 29 12 19 | | | | |
| | ~ | | 40.00.00 | 525. | JAN | 10 2 50 | 9 19 55 |
| 522. в. | JAN | 13 11 41 | 13 22 56 | E. | FEB | 8 15 34 | 8 12 33 |
| | FEB | 12 0 25 | 12 14 8 | 19 1 54 | MAR | 10 4 18 | 10 5 47 |
| 19 8 28 | MAR | 13 13 9 | 14 2 18 | | APRIL | (817 2 | 8 22 36 |
| | APRIL | 12 1 53 | 12 11 47 | | 0 | 23 11 24 | 23 10 37 |
| | MAY . | 11 14 37 | 11 19 22 | | MAY . | 8 5 46 | 8 14 4 |
| | June. | 10 3 21 | 10 2 3 | | June . | 6 18 30 | 7 3 35 |
| | JULY. | 9 16 5 | 9 8 57 | | July. | 6 7 14 | 6 15 7 |
| | Aug | 8 4 49 | 7 17 9 | | Aug. | 4 19 58 | 5 1 9 |
| , | SEPT | 6 17 33 | 6 3 39 | | SEPT. | 3 8 42 | 3 10 27 |
| | Ocr | 6 6 17 | 5 17 6 | İ | Oct. | (2 21 26 | 2 19 49 |
| | Nov | 4 19 1 | 4 9 35 | | 0 | 17 15 48 | 17 12 18 |
| | DEC | 4 7 45 | 4 4 18 | | | ` | |
| | | | | 1 | Nov | 1 10 10 | 1 5 52 |
| 523. | JAN | 2 20 29 | 2 23 50 | | 70 | (30 22 54 | 30 16 50 |
| Α. | FEB | 1 9 13 | 1. 18 32 | | DEC | 30 11 38 | 30 4 51 |
| 19 14 17 | MAR | 2 21 57 | 3 10 57 | | | | |
| | APRIL | 1 10 41 | 2 0 21 | 526. | JAN | 29 0 23 | 28 17 56 |
| | ELFRIL | 30 23 25 | (1 10 49 | D. | FEB | 27 13 7 | 27 8 5 |
| | 0 | (15 17 47 | 15 10 55 | 19 7 43 | MAR | 29 1 51 | 28 23 10 |
| | MAY . | 30 12 9 | 30 19 4 | | APRIL | 27 14 35 | 27 14 49 |
| | JUNE. | 29 0 53 | 29 2 7 | | MAY . | 27 3 19 | 27 6 24 |
| | JULY. | 28 13 37 | 28 9 5 | | June . | 25 16 3 | 25 21 15 |
| | Aug | 27 2 21 | 26 17 2 | | JULY. | 25 4 47 | 25 10 55 |
| | SEPT | 25 15 5 | 25 2 51 | | Aug | 23 17 31 | 28 28 18 |
| | Oct. | 25 3 49 | 24 15 9 | | SEPT | 22 6 15 | 22 10 43 |
| | 0 | (8 22 11 | 9 5 42 | | Oct | 21 18 59 | 21 21 39 |
| | Nov. | 23 16 33 | 23 6 9 | | Nov | 20 7 43 | 20 8 27 |
| | DEC. | 23 5 17 | 22 23 25 | | DEC | 19 20 27 | 19 19 19 |
| | | | | | | | |

| Mean Vernal Equinox. | Month, | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 527. | | d. h. m. | d. h. m. | A.D. 530. | | d. h. m. | d. h. m. |
| c. | Jan | 18 9 12 | 18 6 14 | F. | JAN | 15 0 22 | 15 12 44 |
| March. | FEB | 16 21 56 | 16 17 20 | d. $h.$ $m.$ | FEB | 13 13 6 | 14 1 11 |
| d. h. m. | 0 | (3 16 18 | 4 6 14 | 19 6 58 | MAR | 15 1 50 | 15 11 10 |
| 19 13 32 | MAR | (18 10 40 | 18 4 58 | | APRIL | 13 14 34 | 13 19 17 |
| | APRIL | 16 23 24 | 16 17 32 | | MAY. | 13 3 18 | 13 2 22 |
| | MAY. | 16 12 8 | 16 7 18 | | June . | 11 16 2 | 11 9 27 |
| | June . | 15 0 52 | 14 22 10 | | JULY. | 11 4 46 | 10 17 39 |
| | JULY. | 14 13 36 | 14 13 42 | | Aug. | 9 17 30 | 9 4 0 |
| | Aug | (13 2 20 | 13 5 12 | | SEPT. | 8 6 14 | 7 17 15 |
| | 0 | 27 20 42 | 27 9 11 | | Oct | 7 18 58 | 7 9 30 |
| | SEPT | 11 15 4 | 11 20 5 | | Nov. | 6 7 42 | 6 4 4 |
| | Oct | 11 3 48 | 11 10 2 | | | (5 20 26 | 5 23 34 |
| | Nov. | 9 16 32 | 9 22 58 | | DEC | 20 14 48 | 20 11 2 |
| | DEC. | 9 5 16 | 9 10 56 | | O | (20 14 45 | 20 11 2 |
| 528. | JAN | 7 18 0 | 7 21 57 | 531. | JAN | 4 9 10 | 4 18 19 |
| B.A. | FEB. | (6 6 44 | | E. | FEB | 2 21 54 | 3 10 54 |
| | 0 | 13 | 6 8 8 | 19 12 47 | MAR | 4 10 38 | 5 0 32 |
| 18 19 21 | | | 21 10 0 | | APRIL | 2 23 22 | 3 11 12 |
| 10 19 21 | MAR. | 6 19 28 | 6 17 42 | | MAY . | 2 12 6 | 2 19 31 |
| | APRIL | 5 8 12 | 5 3 12 | | | c 1 0 50 | 1 2 28 |
| | MAY . | 4 20 56 | 4 13 21 | | JUNE. | 15 19 12 | 15 19 45 |
| | JUNE. | 3 9 40 | 3 0 58 | | 0 | (30 13 34 | 30 9 6 |
| | July . | 2 22 24 | 2 14 28 | | JULY . | 30 2 18 | 29 16 35 |
| ł | | (111 8 | 1 5 50 | | Aug | 28 15 2 | 28 1 55 |
| | Aug. O | 16 5 80 | 16 1 15 | | SEPT | 27 3 46 | 26 13 55 |
| | _ | 30 23 52 | 30 22 29 | | Oct | 26 16 30 | 26 5 0 |
| | SEPT | 29 12 36 | 29 15 80 | | Nov. | 25 5 14 | 24 22 43 |
| | Ocr | 29 1 20 | 29 7 58 | | 0 | (9 23 36 | 10 2 44 |
| | Nov | 27 14 4 | 27 23 8 | | DEC | 24 17 58 | 24 18 2 |
| | DEC | 27 2 48 | 27 12 33 | | _ | | |
| 529. | JAN | 25 15 33 | 26 0 8 | 532. | JAN | 23 6 43 | 23 13 17 |
| G. | 0 | 9 9 55 | 9 9 37 | D.C. | FEB | 21 19 27 | 22 6 54 |
| | FEB | 24 4 17 | 24 9 58 | 18 18 36 | MAR | 22 8 11 | 22 21 45 |
| 19 1 10 | MAR | 25 17 1 | 25 18 31 | | APRIL | 20 20 55 | 21 9 35 |
| | APRIL | 24 5 45 | 24 2 28 | | MAY. | 20 9 39 | 20 18 50 |
| | MAY . | 28 18 29 | 28 10 44 | | _ 0 | 5 4 4 1 | 3 21 2 |
| | JUNE . | 22 7 13 | 21 20 21 | | JUNE. | (18 22 23 | 19 2 21 |
| | July . | 21 19 57 | 21 8 13 | | July. | 18 11 7 | 18 9 20 |
| | 0 | 5 14 19 | 5 17 42 | | AUG | 16 23 51 | 16 16 49 |
| | Avg | 20 8 41 | 19 22 45 | | SEPT | 15 12 35 | 15 1 44 |
| | SEPT. | 18 21 25 | 18 15 36 | | Oct | 15 1 19 | 14 12 50 |
| | Ocr | 18 10 9 | 18 9 56 | | Nov | $\int 13 \ 14 \ 3$ | 13 2 31 |
| | Nov | 16 22 58 | 17 4 24 | | 0 | 28 8 25 | 28 16 42 |
| 0, 11 | DEC | 16 11 87 | 16 21 40 | | DEC | 13 2 47 | 12 18 41 |
| | | 1 | 1 | | 1 | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 533. | | d. h. m. | d. h. m. | A.D. 536. | | d. h. m. | d. h. m. |
| в. | JAN | 11 15 31 | 11 12 37 | F.E. | JAN | 9 6 42 | 9 5 11 |
| March. | FEB | 10 4 15 | 10 7 10 | March. | FEB | 7 19 26 | 7 15 59 |
| d. h. m. 19 0 25 | MAR. | 11 17 0 | 12 0 56 | d. h. m. 18 17 51 | MAR. | (8 8 10 | 8 8 1 |
| | APRIL | 10 5 44 | 10 16 46 | | 0 | 23 2 32 | 28 16 24 |
| | MAY . | 9 18 28 | 10 6 1 | | APRIL | 6 20 54 | 6 14 45 |
| | June . | 8 7 12 | 8 16 46 | | MAY. | 6 9 38 | 6 3 89 |
| | JULY. | 7 19 56 | 8 1 40 | | June . | 4 22 22 | 4 17 53 |
| | Aug | 6 8 40 | 6 9 41 | | July. | 4 11 6 | 4 9 9 |
| | SEPT | 4 21 24 | 4 17 53 | | Aug | 2 23 50 | 3 0 58 |
| | Oct | 4 10 8 | 4 3 0 | | SEPT | (1 12 34 | 1 16 24 |
| | Nov | 2 22 52 | 2 13 37 | | 0 | (16 6 56 | 15 18 15 |
| | Dne | γ 2 11 36 | 2 2 3 | | 000 | (1 1 18 | 1 7 9 |
| | DEC | \ | 31 16 17 | | Oct | (80 14 2 | 30 20 52 |
| | | (1 0 20 | | | Nov | 29 2 46 | 29 9 28 |
| 534. | Jan | 30 13 4 | 30 8 2 | | DEC | 28 15 30 | 28 21 0 |
| A. | Feb | (00 10 4 | 30 8 2 | | | | |
| | TEB. | (1 1 48 | 1 0 50 | 537. | JAN | 27 4 14 | 27 7 80 |
| 19 6 14 | MAR | 30 14 32 | 30 17 45 | D. | FEB | 25 16 58 | 25 17 8 |
| | _ | (14 8 54 | 14 10 46 | 18 23 40 | MAR. | 27 5 42 | 27 2 19 |
| | O April | 29 3 16 | 29 9 52 | | APRIL | 25 18 26 | 25 11 48 |
| | MAY . | 28 16 0 | 29 0 25 | | MAY . | 25 7 10 | 24 22 28 |
| | JUNE . | 27 4 44 | 27 13 3 | | JUNE. | 23 19 54 | 28 10 48 |
| | JULY. | 26 17 28 | 26 23 57 | | JULY. | 23 8 38 | 23 1 17 |
| | Aug. | 25 6 12 | 25 9 45 | | Aug | 21 21 22 | 21 17 81 |
| | SEPT | 23 18 56 | 23 19 14 | | SEPT | 20 10 6 | 20 10 41 |
| 1 | 0 | (8 13 18 | 8 6 48 | | Ост | 19 22 50 | 20 8 49 |
| | Ocr | 23 7 40 | 23 5 6 | | Nov | 18 11 84 | 18 19 57 |
|] | Nov | 21 20 24 | 21 15 41 | | DEC | 18 0 18 | 18 10 25 |
| | DEC | 21 9 8 | 21 3 7 | | | | |
| 535. | Jan | 19 21 52 | 19 15 30 | 538. | JAN | (16 18 8 | 16 22 55 |
| G. | FEB | 18 10 36 | 18 4 50 | C. | 0 | 31 7 25 | 81 4 84 |
| 19 12 3 | MAR. | 19 23 21 | 19 19 10 | | FEB | 15 1 47 | 15 9 29 |
| | 0 | (3 17 43 | 4 3 30 | 19 5 29 | MAR | 16 14 81 | 16 18 26 |
| | APRIL | 18 12 5 | 18 10 20 | | APRIL | 15 8 15 | 15 2 28 |
| | MAY . | 18 0 49 | 18 1 54 | | MAY . | 14 15 59 | 14 10 11 |
| | JUNE . | 16 13 33 | 16 17 13 | | JUNE . | 18 4 48 | 12 18 51 |
| | JULY. | 16 2 17 | 16 7 39 | | JULY. | (12 17 27 | 12 5 28 |
| | Aug | 14 15 1 | 14 20 54 | | 0 | 27 11 49 | 27 17 5 |
| | SEPT | (13 3 45 | 13 9 3 | | ΑυG | 11 6 11 | 10 18 89 |
| | 0 | 27 22 7 | 27 8 53 | | SEPT | 9 18 55 | 9 10 30 |
| | Ocr | 12 16 29 | 12 20 26 | | Oct | 9 7 89 | 9 4 25 |
| | Nov | 11 5 13 | 11 7 28 | | Nov | 7 20 28 | 7 28 12 |
| | DEC | 10 17 57 | 10 18 21 | | DEC | 7 9 7 | 7 17 28 |
| | | 1-1-1-1 | | | | | î |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 539. | | d. h. m. | d. h. m. | A.D. 542. | | d. h. m. | d. h. m. |
| в. | JAN | (5 21 51 | 6 9 43 | E. March. | JAN | 2 13 1 | 2 7 32 |
| 36 | 0 | (20 16 13 | 20 9 19 | d. h. m. | FEB | 1 1 45 | 1 1 45 |
| March. $d. h. m.$ | FEB | 4 10 35 | 4 23 27 | 19 4 44 | MAR | 2 14 29 | 2 19 52 |
| 19 11 17 | MAR | 5 23 19 | 6 10 31 | | A | (1 3 13 | 1 12 39 |
| Ì | APRIL | 4 12 3 | 4 19 20 | | APRIL | (30 15 57 | . 1 3 10 |
| | MAY . | 4 0 47 | 4 2 41 | | 0 | (15 10 19 | 15 2 54 |
| | June . | 2 13 31 | 2 9 31 | | MAY . | (30 4 41 | 80 15 10 |
| | | (2 2 15 | 1 16 59 | | JUNE . | 28 17 25 | 29 0 59 |
| | July O | 16 20 37 | 17 3 25 | | July . | 28 6 9 | 28 9 30 |
| | | ⁽ 31 14 59 | 31 2 9 | | Aug | 26 18 53 | 26 17 41 |
| , | Aug | 30 3 43 | 29 13 57 | | SEPT | 25 7 37 | 25 2 27 |
| | SEPT | 28 16 27 | 28 4 48 | | Ост | 24 20 21 | 24 12 25 |
| | Oct | 28 5 11 | 27 22 27 | | 0 | (8 14 43 | 8 20 6 |
| | Nov | 26 17 55 | 26 17 46 | | Nov | 23 9 5 | 22 23 58 |
| | DEC | 26 6 39 | 26 13 9 | | DEC | 22 21 49 | 22 13 13 |
| 540. | 0 | (10. 1 2 | 9 21 6 | 543. | Jan | 21 10 34 | 21 4 5 |
| A.G. | JAN | 24 19 21 | 25 6 58 | D. | FEB | 19 23 18 | 19 20 11 |
| | FEB | 23 8 8 | 23 22 3 | 19 10 33 | MAR | 21 12 2 | 21 12 52 |
| 18 17 6 | MAR | 23 20 52 | 24 10 4 | | APRIL | 20 0 46 | 20 5 19 |
| | APRIL | 22 9 36 | 22 19 23 | | 0 | § 4 19 8 | 4 18 12 |
| | MAY . | 21 22 20 | 22 2 49 | | MAY . | 19 13 30 | 19 20 42 |
| | JUNE . | 20 11 4 | 20 9 28 | | JUNE . | 18 2 14 | 18 10 21 |
| | July . | 19 23 48 | 19 16 27 | | JULY . | 17 14 58 | 17 22 15 |
| | Aug | 18 12 32 | 18 0 49 | | Aug | 16 3 42 | 16 8 45 |
| | SEPT | 17 1 16 | 16 11 81 | | SEPT | 14 16 26 | 14 18 34 |
| | Ocr | 16 14 0 | 16 1 6 | | Oct | ∫14 5 10 | 14 4 24 |
| | Nov | 15 2 44 | 14 17 88 | | 0 | 128 23 32 | 28 20 2 |
| | DEC | 14 15 28 | 14 12 18 | | Nov | 12 17 54 | 12 14 43 |
| 541. | JAN | 18 4 18 | 18 7 41 | | DEC | 12 6 38 | 12 1 45 |
| F. | FEB | 11 16 57 | 12 2 12 | 54 4 . | JAN | 10 19 22 | 10 13 21 |
| 18 22 55 | MAR. | 13 5 41 | 13 18 25 | C.B. | FEB | 9 8 6 | 9 2 8 |
| | APRIL | 11 18 25 | 12 7 42 | 18 16 22 | MAR. | 9 20 51 | 9 15 41 |
| | MAY . | (11 7 9 | 11 18 7 | | APRIL | 8 9 35 | 8 6 10 |
| | 0 | 26 1 31 | 25 17 40 | | MAY . | 7 22 19 | 7 21 24 |
| | JUNE . | 9 19 58 | 10 2 24 | | June . | 6 11 3 | 6 12 52 |
| | July. | 9 8 87 | 9 9 87 | | July . | 5 23 47 | 6 3 53 |
| | Aug. | 7 21 21 | 7 16 50 | | Aug | 4 12 31 | 4 17 57 |
| | SEPT. | 6 10 5 | 6 1 5 | | SEPT | 8 1 15 | 3 6 55 |
| | Ocr. | 5 22 49 | 5 11 10 | 1 | Oct | 2 13 59 | 2 18 56 |
| | Nov. | (4 11 88 | 8 23 35 | | 27 | 1 2 43 | 1 6 21 |
| | 0 | 19 5 55 | 19 14 16 | | Nov. | 39 15 27 | 30 17 24 |
| | DEC | 4 0 17 | 8 14 80 | | DEC. | 30 4 11 | 80 4 15 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. (O Full Ecl. |
|----------------------------|--------|----------------|------------------------------------|----------------------------|--------|------------------------------|---|
| A.D. 545. | | d. h. m. | d. h. m. | A.D. 548. | | d. h. m. | d. h. m. |
| A. | JAN | 28 16 55 | 28 14 52 | E.D. | JAN | 26 8 5 | 26 21 5 |
| March. | FEB | 27 5 39 | 27 1 30 | March. $d. h. m.$ | FEB. | 24 20 49 | 25 9 23 |
| d. h. m. | 0 | (14 0 1 | 14 13 51 | 18 15 37 | MAR. | 25 9 33 | 25 19 8 |
| 18 22 10 | MAR | 28 18 23 | 28 12 32 | | APRIL | 23 22 17 | 24 2 58 |
| | APRIL | 27 7 7 | 27 0 32 | | MAY. | 23 11 1 | 23 9 50 |
| | MAY . | 26 19 51 | 26 13 54 | | JUNE . | 21 23 45 | 21 16 48 |
| | June . | 25 8 35 | 25 4 38 | | JULY . | 21 12 29 | 21 0 59 |
| | JULY. | 24 21 19 | 24 20 19 | | Aug | 20 1 13 | 19 11 25 |
| | Aug | 23 10 3 | 23 12 14 | | SEPT | 18 13 57 | 18 0 48 |
| | 0 | § 7 4 25 | 6 17 13 | | Oct | 18 2 41 | 17 17 13 |
| | SEPT | 21 22 47 | 22 3 43 | | Nov | 16 15 25 | 16 11 57 |
| | Ост | 21 11 31 | 21 18 16 | | DEC | (16 4 9 | 16 7 33 |
| | Nov | 20 0 15 | 20 7 38 | | 0 | 30 22 31 | 30 19 56 |
| | DEC | 19 12 59 | 19 19 49 | | | , | |
| 546. | JAN | 18 1 44 | 18 6 46 | 549. | JAN | 14 16 58 | 15 2 18 |
| G. | FEB | 16 14 28 | 16 16 39 | с. | FEB | 13 5 38 | 13 18 50 |
| | 0 | (3 8 50 | 3 17 26 | 18 21 26 | MAR | 14 18 22 | 15 8 18 |
| 19 8 59 | MAR | 18 3 12 | 18 1 45 | | APRIL | 13 7 6 | 13 18 48 |
| | APRIL | 16 15 56 | 16 10 44 | | MAY . | 12 19 50 | 18 8 0 |
| | MAY . | 16 4 40 | 15 20 27 | | June . | (11 8 34 | 11 9 54 |
| | June . | 14 17 24 | 14 7 45 | | 0 | 26 2 56 | 26 2 13 |
| | JULY. | 14 6 8 | 13 21 9 | | JULY. | 10 21 18 | 10 16 88 |
| , 1, | Aug | (12 18 52 | 12 12 38 | | Aug | 9 10 2 | 9 0 15 |
| | 0 | 27 13 14 | 27 9 15 | | Sept | 7 22 46 | 7 9 47 |
| | SEPT | 11 7 36 | 11 5 38 | | Oct | 7 11 30 | 6 21 58 |
| | Oct | 10 20 20 | 10 23 10 | | Nov | 6 0 14 | 5 18 7 |
| | Nov | 9 9 4 | 9 16 10 | | Dec | ∫ 5 12 58 | 5 6 49 |
| | DEC | 8 21 48 | 9 7 42 | | 0 | 20 7 20 | 20 11 42 |
| 547. | Jan | 7 10 33 | 7 21 16 | 550. | JAN | 4 1 42 | 4 1 56 |
| F. | FEB | (5 23 17 | 6 8 42 | в. | FEB. | 2 14 26 | 2 20 58 |
| | 0 | 20 17 39 | 20 17 8 | 19 8 15 | MAR. | 4 3 10 | 4 14 20 |
| 19 9 48 | MAR | 7 12 1 | 7 18 14 | | APRIL | 2 15 54 | 8 5 8 |
| | APRIL | 6 0 45 | 6 2 25 | | | (2 4 38 | 2 16 49 |
| | MAY . | 5 13 29 | 5 9 59 | | MAY . | 81 17 22 | |
| | JUNE . | 4 2 13 | 3 17 57 | | 0 | (15 11 44 | $\int_{15}^{1} \begin{array}{ccc} 2 & 5 \\ 8 & 8 \end{array}$ |
| | JULY. | 3 14 57 | 3 3 25 | | JUNE . | 30 6 6 | 80 9 46 |
| | | , 2 3 41 | 1 15 13 | | JULY . | 29 18 50 | 29 16 59 |
| | Aug. 0 | 16 22 3 | 17 1 26 | | Aug | 28 7 34 | 28 0 46 |
| | | 31 16 25 | 81 5 51 | | SEPT | 26 20 18 | 26 9 59 |
| | SEPT | 30 5 9 | 29 22 59 | | Ост | 26 9 2 | 25 21 17 |
| | Ocr | 29 17 58 | 29 17 42 | | Nov | 24 21 46 | 24 10 58 |
| | Nov | 28 6 87 | 28 12 30 | , | 0 | (9168 | 10 1 24 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (© Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|--------------------------------|---|---|--|--------------------------------------|--|---|---|
| 551. A. March. d. h. m. 19 9 3 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC JAN FEB MAR . APRIL O MAY . JUNE . JULY . AUG SEPT OCT OT | d. h. m. 22 23 15 21 11 59 23 0 43 21 13 27 21 2 11 19 14 55 19 3 39 17 16 23 16 5 7 15 17 51 14 6 35 13 19 19 12 8 4 10 20 48 11 9 32 { 9 22 16 { 24 16 38 9 11 0 7 23 44 7 12 28 6 1 12 4 13 56 { 4 2 40 { 18 21 2 2 15 24 | d. h. m. 22 20 29 21 14 36 28 8 1 21 23 40 21 12 55 19 23 50 19 9 3 17 17 30 16 2 5 15 11 33 18 22 22 13 10 44 12 0 39 10 15 55 11 8 7 10 0 35 24 18 26 9 16 29 8 7 4 7 19 58 6 7 19 4 17 40 4 3 40 18 14 26 2 13 58 | A.D. 554. p. March. d. h. m. 19 2 30 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 19 14 25 18 3 9 19 15 53 3 10 15 18 4 37 17 17 21 16 6 5 15 18 49 14 7 38 \$12 20 17 27 14 39 12 9 1 10 21 45 10 10 29 8 28 14 7 11 58 9 0 42 7 18 26 7 2 10 5 14 54 5 3 38 3 16 22 2 5 6 { 1 17 50 81 6 34 | d. h. m. 19 13 58 18 0 20 19 10 49 3 28 52 17 21 59 17 10 25 16 0 22 15 15 40 14 7 43 12 23 47 27 2 24 12 15 8 11 5 23 10 18 18 9 5 52 7 16 7 9 1 21 7 10 4 6 19 5 5 5 18 4 17 32 3 8 2 2 0 32 1 18 11 31 11 49 |
| 553. E. 18 20 41 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC | \$\begin{cases} 2 & 4 & 8 \\ 81 & 16 & 52 \end{cases}\$ 80 & 5 & 86 \\ 28 & 18 & 20 \\ 80 & 7 & 4 \\ 14 & 1 & 26 \\ 28 & 19 & 48 \\ 28 & 8 & 32 \\ 26 & 21 & 16 \\ 26 & 10 & 0 \\ 24 & 22 & 44 \\ 28 & 11 & 28 \\ 8 & 5 & 50 \\ 28 & 0 & 12 \\ 21 & 12 & 56 \\ 21 & 1 & 40 \end{cases}\$ | 31 11 57 29 28 55 28 12 40 30 2 24 14 11 11 28 17 4 28 8 22 26 23 41 26 14 28 25 4 15 28 17 0 7 16 45 28 4 57 21 16 20 | 556. B.A. 18 14 8 | Nov DEC JAN OFEB MAR APRIL MAY . JUNE . JULY . OAUG SEPT OCT Nov DEC | 29 19 18 29 8 2 27 20 46 {11 15 8 {26 9 30 26 22 14 25 10 58 24 28 42 23 12 26 28 1 10 { 6 19 32 {21 13 54 20 2 38 19 15 22 18 4 6 17 16 50 | 7 0 87 21 1 45 19 17 49 19 12 8 18 7 9 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon, (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------|------------------------------------|----------------------------|---------|------------------------------------|------------------------------|
| A.D. 557. | | d. h. m. | d. h. m. | A.D. 560. | | d. h. m. | d. h. m. |
| G. | JAN | (16 5 35 | 16 18 1 | D.C. | JAN | 13 20 45 | 13 15 35 |
| | 0 | 30 23 57 | 30 17 34 | March. | FEB. | 12 9 29 | 12 9 21 |
| March. $d.$ $h.$ $m.$ | FEB | 14 18 19 | 15 7 40 | d. h. m. 18 13 23 | MAR. | 12 22 13 | 13 3 3 |
| 18 19 56 | MAR | 16 7 3 | 16 18 32 | | APRIL | 11 10 57 | 11 19 88 |
| | APRIL | 14 19 47 | 15 3 5 | 1 | MAY . | (10 23 41 | 11 9 59 |
| | MAY . | 14 8 31 | 14 10 12 | | 0 | 25 18 3 | 25 10 8 |
| | JUNE . | 12 21 15 | 12 16 56 | | JUNE. | 9 12 25 | 9 22 7 |
| | JULY . | (12 9 59 | 12 0 22 | | JULY. | 9 1 9 | 9 8 14 |
| | 0 | 127 4 21 | 27 10 25 | | Aug | 7 13 53 | 7 17 9 |
| | Aug | 10 22 43 | 10 9 36 | | SEPT | 6 2 37 | 6 1 46 |
| | SEPT | 9 11 27 | 8 21 31 | | Oct | 5 15 21 | 5 10 55 |
| | Oct | 9 0 11 | 8 12 33 | | Nov. | (4 4 5 | 3 21 11 |
| | Nov | 7 12 55 | 7 6 20 | | 0 | 18 22 27 | 19 4 11 |
| | DEC | 7 1 39 | 7 1 44 | | DEC | 3 16 49 | 8 8 46 |
| | | | | | | | |
| 558. | JAN | ∫ 5 14 23 | 5 21 7 | 561. | JAN | (2 5 34 | 1 21 49 |
| F. | 0 | 20 8 45 | 20 5 49 | В. | JAM | l 31 18 18 | 81 12 11 |
| | FEB | 4 3 7 | 4 14 51 | | FEB | | ••• |
| 19 1 45 | MAR | 5 15 52 | 6 5 50 | 18 19 12 | 3.5 | [272 | 2 8 41 |
| } | APRIL | 4 4 36 | 4 17 41 | 10 19 12 | MAR | 81 19 46 | 81 19 52 |
| | MAY. | 3 17 20 | 4 2 52 | | APRIL | 30 8 30 | 80 11 58 |
| | JUNE . | 2 6 4 | 2 10 16 | | 0 | (15 2 52 | 15 1 44 |
| | // | 1 18 48 | 1 16 58 | | MAY . | 129 21 14 | 80 8 15 |
| | July O | 16 13 10 | 16 13 16 | | June . | 28 9 58 | 28 17 7 |
| | | 131 7 32 | 31 0 6 | | JULY. | 27 22 42 | 28 5 25 |
| | AUG | 29 20 16 | 29 8 40 | | Aug | 26 11 26 | 26 16 27 |
| | SEPT | 28 9 0 | 27 19 33 | | SEPT | 25 0 10 | 25 2 48 |
| | Oct | 27 21 44 | 27 9 17 | | Oct | 24 12 54 | 24 18 5 |
| | Nov. | 26 10 28 | 26 1 46 | | 0 | § 8 7 16 | 8 8 52 |
| | Dec | 25 23 12 | 25 20 17 | | Nov | 28 1 8 ਤ | 22 28 40 |
| 559. | Jan | 24 11 56 | 24 15 26 | | DEC | 22 14 22 | 22 10 41 |
| E. | FEB. | 23 0 40 | 23 9 41 | 500 | | | 00.00 |
| 19 7 34 | MAR. | 24 13 24 | 25 1 43 | 562. | JAN | 21 8 6 | 20 22 9 |
| | APRIL | 23 2 8 | 23 14 54 | | FEB | 19 15 50 | 19 10 18 |
| | MAY . | 22 14 52 | 23 1 19 | 19 1 1 | MAR. | 21 4 84 | 20 23 8 |
| | JUNE . | 21 3 36 | 21 9 44 | i | APRIL M | 19 17 18 | 19 18 4 |
| | JULY. | 20 16 20 | 20 17 10 | İ | MAY . | 19 6 2 | 19 8 55 |
| | AUG. | 19 5 4 | 19 0 41 | | JUNE . | 17 18 46 | 17 19 17 |
| | SEPT | 17 17 48 | 17 9 16 | - | JULY . | 17 7 30 | 17 10 81 |
| | Oct | 17 6 32 | 16 19 35 | ł | Aug. | 15 20 14 | 16 1 8 |
| | Nov | (15 19 16 | 15 8 6 | | SEPT. | 14 8 58 | 14 14 88 |
| | 0 | 30 13 38 | 30 22 50 | | Oct. | 13 21 42 | 14 8 14 |
| | DEC | 15 8 0 | 14 22 54 | ł | Nov. | 12 10 26 | 12 15 6 |
| | | | | | DEC | 11 23 10 | 12 2 23 |
| | | | | - U | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|----------------|----------------------------|----------|--|------------------------------------|
| A.D. 563. | | d. h. m. | d. h. m. | A.D. 566. | | d. h. m. | d. h. m. |
| G. | JAN | 10 11 55 | 10 13 8 | С. | JAN | 7 3 5 | 7 14 13 |
| March. d. h. m. | FEB | 9 0 39 | 8 23 25 | March. $d. h. m.$ | FEB. | 5 15 49 | 6 5 18 |
| 19 6 49 | MAR | ſ10 13 23 | 10 9 32 | 19 0 16 | MAR. | 7 4 33 | 7 17 26 |
| | 0 | 25 7 45 | 25 21 19 | | APRIL | 5 17 17 | 6 2 56 |
| | APRIL | 9 2 7 | 8 20 0 | | MAY. | 5 6 1 | 5 10 33 |
| | MAY . | 8 14 51 | 8 7 29 | | June . | 3 18 45 | 3 17 17 |
| | June . | 7 3 35 | 6 20 30 | | JULY. | 3 7 29 | 3 0 12 |
| | July . | 6 16 19 | 6 11 8 | | | (1 20 13 | 1 8 27 |
| | Aug | 5 5 3 | 5 3 1 | | Aug | 31 8 57 | 30 19 0 |
| | SEPT | (3 17 47 | 3 19 23 | | SEPT | 29 21 41 | 29 8 32 |
| | 0 | 18 12 9 | 18 1 15 | | Ост | 29 10 25 | 29 1 6 |
| | Oct | 3 6 31 | 3 11 28 | | NT . | 27 23 9 | 27 19 55 |
| | Nov. | 1 19 15 | 2 2 35 | | DEC | 27 11 53 | 27 15 31 |
| | 2,0,1 | (1 7 59 | 1 16 22 | | DEC | 21 11 00 | 27 19 91 |
| | DEC | 30 20 43 | 31 4 40 | 567. | ^ | (11 6 15 | 11 6 47 |
| | | .00 20 10 | 01 7 10 | в. | O Jan | 26 0 37 | 26 10 12 |
| 564. | JAN | 29 9 27 | 29 15 29 | | FEB. | 24 13 21 | 25 2 35 |
| F. E. | FEB | 27 22 11 | 28 1 0 | 19 6 5 | MAR. | 26 2 5 | 26 15 54 |
| | 0 | 13 16 33 | 14 0 39 | | APRIL | 24 14 49 | 25 2 16 |
| 18 12 38 | MAR | 28 10 56 | 28 9 40 | | | 24 3 33 | 24 10 24 |
| i | APRIL | 26 28 40 | 26 18 12 | | MAY . | 22 16 17 | |
| 1 | MAY . | 26 12 24 | 26 3 32 | | JUNE . | 7 10 39 | 22 17 20 7 8 41 |
| | June . | 25 1 8 | 24 14 88 | | 0 | H | |
| | July . | 24 18 52 | 24 8 54 | | July . | | 22 0 13 |
| 1 | Aug | 28 2 36 | 22 19 33 | | Aug | 20 17 45 | 20 8 2 |
| | 0 | 6 20 58 | 6 17 20 | | SEPT | 19 6 29 | 18 17 47 |
| | SEPT | 121 15 20 | 21 12 57 | 1 | Ocr | 18 19 13 | 18 6 9 |
| | Oct | 21 4 4 | 21 6 58 | 1 | Nov | 17 7 57 | 16 21 19 |
| | Nov | 19 16 48 | 20 0 24 | | DEC | 16 20 41 | 16 14 53 |
| | DEC | 19 5 82 | 19 16 15 | | 0 | (31 15 3 | 31 20 37 |
| 505 | T | 17 18 16 | 18 5 51 | 568. | JAN | 15 9 26 | 15 9 48 |
| 565. | JAN. | 16 7 0 | | A.G. | FEB. | 13 22 10 | 14 4 32 |
| | FEB | | 16 17 7 | 18 11 54 | MAR. | 14 10 54 | 14 21 40 |
| 10 10 01 | 0 | 8 1 22 | 8 0 81 | | APRIL | 12 23 38 | 13 12 14 |
| 18 18 27 | MAR. | 17 19 44 | 18 2 20 | 11 | MAY . | 12 12 22 | 12 23 58 |
| | APRIL | 16 8 28 | 16 10 10 | | | (11 1 6 | 11 9 20 |
| | MAY. | 15 21 12 | 15 17 25 | | JUNE. | 25 19 28 | 25 10 18 |
| | JUNE . | 14 9 56 | 14 1 10 | 11 | JULY . | 10 13 50 | 10 17 12 |
| | JULY . | 18 22 40 | 18 10 81 | | 1 | 9 2 34 | 9 0 45 |
| | Aug | 12 11 24 | 11 22 21 | | Aug. | | 7 8 52 |
| | 0 | 27 5 46 | 27 9 18 | | SEPT | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ | 6 18 23 |
| | SEPT | 11 0 8 | 10 13 8 | | Oot | | 5 5 52 |
| | Ocr | 10 12 52 | 10 6 32 | | Nov. | 5 16 46 | |
| | Nov | 9 1 86 | 9 1 32 | | DEC. | 5 5 30 | |
| 1 | DEC | 8 14 20 | 8 20 86 | H | 1 0 | 119 28 52 | 20 10 6 |

| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (OFull Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True Now Moon. () Full Ecl.) |
|----------------------------|----------------|--|-----------------------------------|----------------------------|--------|--|------------------------------------|
| A.D. 569. | | d. h. m. | d. h. m. | A.D. 572. | | d. h. m. | d. h. m. |
| F. March. | JAN FEB | 3 18 15 2 6 59 | 3 11 10 2 4 16 | C.B. | JAN | $\left\{ \begin{array}{ccc} 1 & 9 & 24 \\ 30 & 22 & 8 \end{array} \right.$ | |
| d. h. m. 18 17 42 | MAR. | 3 19 43 | 3 21 55 | March. | FEB | 29 10 58 | 80 22 89 29 8 84 |
| 100 | APRIL | 2 8 27 | 2 14 59 | 18 11 9 | MAR | 29 28 37 | 29 18 81 |
| | MAY . | ∫ 1 21 11 | 2 6 27 | | 0 | 18 17 59 | 14 7 11 |
| | | 131 9 55 | 31 19 45 | | APRIL | 28 12 21 | 28 5 9 |
| | _ 0 | $\begin{cases} 15 & 4 & 17 \end{cases}$ | 14 18 16 | | MAY . | 28 1 5 | 27 17 10 |
| | June . | 129 22 39 | 30 6 56 | | June. | 26 18 49 | 26 6 56 |
| | JULY. | 29 11 23 | 29 16 31 | | JULY. | 26 2 33 | 25 22 18 |
| | Aug | 28 0 7 | 28 1 23 | | Aug | 24 15 17 | 24 14 42 |
| | SEPT | 26 12 51 | 26 10 26 | | SEPT | 23 4 1 | 23 7 17 |
| | Oct | 26 1 35 | 25 20 16 | | 0 | ₹ 7 22 28 | 7 10 45 |
| | Nov | 24 14 19 | 24 7 14 | | Ocr | 122 16 45 | 22 28 14 |
| | DEC | 24 3 3 | 23 19 28 | | Nov | 21 5 29 | 21 13 57 |
| E70 | . | 00 15 45 | 00 0 50 | | DEC | 20 18 18 | 21 8 7 |
| 570. E. | JAN | 22 15 47 | 22 8 58 | E70 | n_ n | | |
| 18 23 31 | FEB | 21 4 31 | 20 23 40 | 573. | JAN | 19 6 57 | 19 14 38 |
| 10 20 01 | MAR | 22 17 15 | 22 15 18 | | FEB | 17 19 41 | 18 0 86 |
| | APRIL | 21 5 59 | 21 7 18 | 18 16 58 | MAR | 19 8 25 | 19 9 25 |
| | O May. | $\begin{cases} 6 & 0.21 \\ 20.18.43 \end{cases}$ | 6 2 3 | | APRIL | 17 21 9 | 17 17 42 |
| | | 19 7 27 | 20 23 0 | | MAY. | 17 9 58 | 17 2 18 |
| | JUNE. JULY. | 18 20 11 | 19 13 40 | | JUNE. | 15 22 87 | 15 12 14 |
| | Aug | 1 | 19 2 55 | | JULY. | 15 11 21 | 15 0 19 |
| | SEPT. | 17 8 55 15 21 39 | 17 14 46 | | Aug | 14 0 5 | 18 14 55 |
| 1 | Oct. | (15 10 23 | 16 1 41 | | SEPT | 12 12 49 | 12 7 42 |
| | 001. | 30 4 45 | 15 12 11 | | Oct | 12 1 88 | 12 1 44 |
| | Nov. | 13 23 7 | 29 22 13 | | Nov | 10 14 17 | 10 19 51 |
| | DEC | 13 11 51 | 13 22 45 13 9 85 | | DEC | 10 8 1 | 10 12 46 |
| | DEC | 10 11 01 | 13 9 35 | 574. | JAN | 8 15 46 | 9 8 87 |
| 571. | JAN | 12 0 36 | 11 20 44 | G. | FEB. | 7 4 80 | 7 15 59 |
| D. . | FEB | 10 13 20 | 10 8 14 | | 0 | 21 22 52 | 21 19 52 |
| 19 5 20 | Mar | 12 2 4 | 11 20 24 | 18 22 47 | MAR. | 8 17 14 | 9 2 2 |
| 1 | APRIL | ∫10 14 48 | 10 9 31 | | APRIL | 7 5 58 | 7 10 18 |
| 1 | 0 | l ₂₅ 9 10 | 25 18 47 | | MAY. | 6 18 42 | 6 17 85 |
| | MAY . | 10 3 32 | 9 23 43 | 1 | JUNE . | 5 7 26 | 5 0 50 |
| | June . | 8 16 16 | 8 14 48 | | JULY. | 4 20 10 | 4 9 12 |
| | July. | 8 5 0 | 8 6 13 | | Aug | (8 8 54 | 2 19 41 |
| | AUG | 6 17 44 | 6 21 22 | | 0 | 18 8 16 | 18 8 18 |
| | SEPT | 5 6 28 | 5 11 44 | | SEPT | 1 21 88 | 1 9 2 |
| | Oct | 4 19 12 | 5 1 6 | | | 1 10 22 | 1 1 18 |
| | 0 | 19 13 34 | 19 0 47 | | Oct | 80 28 6 | 80 19 48 |
| | Nov | 3 7 56 | 3 13 34 | | Nov | 29 11 50 | 29 15 9 |
| | DEC | 2 20 40 | 3 1 16 | | DEC | 29 0 84 | 29 9 45 |
| | | | - 1 | | 1 | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|---|--|--|---|--|--|--|
| A.D. 575. F. March. d. h. m. 19 4 35 | JAN O FEB MAR APRIL MAY . JUNE . O AUG SEPT Oct Nov Dec | d. h. m. 27 13 18 11 7 40 26 2 2 27 14 47 26 3 31 25 16 15 24 4 59 23 17 43 { 7 12 5 22 6 27 20 19 11 20 7 55 18 20 39 18 9 23 | d. h. m. 28 2 11 11 1 44 26 15 43 28 2 23 26 10 44 25 17 42 24 0 22 23 7 51 7 17 30 21 17 11 20 5 16 19 20 26 18 14 17 18 9 41 | A.D. 578. B. March. d. h. m. 18 22 2 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O DEC | d. h. m. 24 4 28 22 17 12 24 5 56 22 18 40 22 7 24 6 1 46 20 20 8 20 8 52 18 21 36 17 10 20 16 23 4 {15 11 48 30 6 10 15 0 32 | d. h. m. 23 23 34 22 16 50 24 10 5 23 2 19 22 16 44 5 16 59 21 5 2 20 15 30 19 0 51 17 9 58 16 19 32 15 6 0 30 12 16 14 17 35 |
| 576. E.D. 18 10 24 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV DEC | {16 22 7 81 16 29 15 10 51 15 28 85 14 12 19 14 1 8 12 18 47 {12 2 31 26 20 58 10 15 15 9 8 59 8 16 48 7 5 27 6 18 11 5 6 56 | 17 5 1 81 14 26 15 22 37 16 13 25 15 1 9 14 10 16 12 17 40 12 0 29 26 19 54 10 7 49 8 16 38 8 3 44 6 17 33 6 9 57 | 579. A. 19 3 51 | Jan Feb Mar April May . O June . July . Aug Sept Oct Nov O Dec | 13 18 16 12 2 1 13 14 45 12 3 20 {11 16 18 26 10 35 10 4 57 9 17 41 8 6 25 6 19 9 6 7 58 { 4 20 37 19 14 59 4 9 21 | 18 6 18 11 20 11 18 11 5 12 2 42 11 18 30 26 9 11 10 9 45 9 28 52 8 12 37 7 0 18 6 11 9 4 21 51 19 11 45 4 8 37 |
| 577. c. 18 16 18 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV O DEC | 5 6 56 8 19 40 5 8 24 8 21 8 8 9 52 1 22 86 1 11 20 81 0 4 29 12 48 28 1 82 27 14 16 26 8 0 10 21 22 125 15 44 | 5 4 15 8 28 6 5 17 8 4 8 52 8 21 58 2 8 29 1 17 4 81 0 47 29 8 41 27 17 87 27 4 11 25 16 48 11 7 21 25 7 18 | 580. G.F. 18 9 40 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 2 22 6 1 10 50 1 28 84 81 12 18 80 1 2 29 18 46 28 2 30 27 15 14 26 8 58 24 16 42 24 5 26 22 18 10 22 6 54 | 2 19 88 1 6 41 1 18 12 81 6 81 29 19 54 29 10 26 28 1 45 27 17 15 26 8 18 24 22 29 24 11 89 22 28 55 22 11 20 |

| Mean Vernal | Month. | Mean New Moon. O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon, (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------|----------|--|----------------|----------------------------|--------|------------------------------------|------------------------------|
| Equinox. | | O Full Ect.) | O Full Ect.) | | ~ | (0 2 411 414) | |
| A.D. 581. | | d. h. m. | d. h. m. | A.D. 584. | | d. h. m. | d. h. m. |
| E. | JAN | 20 19 38 | 20 21 55 | B.A. | JAN | 18 10 48 | 18 22 21 |
| March. | FEB. | 19 8 22 | 19 7 50 | d. h . m . | FEB | 16 23 32 | 17 13 21 |
| d. h. m. 18 15 28 | MAR. | 20 21 6 | 20 17 25 | 18 8 55 | MAR | 17 12 16 | 18 1 18 |
| 10 10 10 | 0 | (4 15 28 | 5 4 35 | | APRIL | 16 1 1 | 16 10 87 |
| | APRIL | 19 9 50 | 19 3 22 | | MAY . | 15 18 45 | 15 18 5 |
| | MAY. | 18 22 34 | 18 14 24 | | JUNE. | 14 2 29 | 14 0 45 |
| • | JUNE. | 17 11 18 | 17 3 7 | | JULY . | 18 15 18 | 13 7 41 |
| | JULY. | 17 0 2 | 16 17 44 | | Avg | 12 8 57 | 11 16 2 |
| | Aug | 15 12 46 | 15 9 50 | 1 | SEPT | 10 16 41 | 10 2 45 |
| | SEPT | (14 1 30 | 14 2 40 | 6 | Ocr | 10 5 25 | 9 16 26 |
| | 0 | 28 19 52 | 28 9 32 | | Nov | 8 18 9 | 8 9 5 |
| | Oct | 13 14 14 | 13 19 18 | | DEC | 8 6 58 | 8 8 54 |
| | Nov | 12 2 58 | 12 10 57 | | | | |
| | DEC | 11 15 42 | 12 1 5 | 585. | JAN | 6 19 87 | 6 28 26 |
| F00 | | 40 400 | 70 10 00 | G. | 0 | (21 18 59 | 21 18 88 |
| 582. | JAN | 10 4 26 | 10 13 26 | | FEB | 5 8 21 | 5 17 58 |
| | FEB | 8 17 11 | 9 0 4 | 18 14 44 | MAR | 6 21 5 | 7 10 11 |
| 18 21 17 | MAR | ∫10 5 55 | 10 9 14 | | APRIL | 5 9 49 | 5 28 22 |
| | . 0 | (25 0 17 | 25 7 39 | | MAY . | 4 22 88 | 5 9 89 |
| | APRIL | 8 18 39 | 8 17 28 | | JUNE . | 8 11 17 | 8 17 48 |
| | MAY . | 8 7 23 | 8 1 35 | | JULY. | S 0 1 | 8 0 49 |
| | June. | 6 20 7 | 6 10 35 | | 0 | (17 18 28 | 17 15 15 |
| | JULY. | 6 8 51 | 5 21 26 | | A *** | f 1 12 45 | 1 7 58 |
| | Aug. | 4 21 35 | 4 10 46 | | AUG | \\ 1 1 29 | 80 15 58 |
| | SEPT | 3 10 19 | 3 2 37 | | SEPT | 29 14 18 | 29 1 59 |
| | 0 | (18 4 41 | 18 1 34 | | Oct | 29 2 57 | 28 14 28 |
| | Oct | 2 23 3 | 2 20 22 | 1 | Nov | 27 15 41 | 27 5 87 |
| 1 | Nov. | 1 11 47 | 1 14 49 | | DEC | 27 4 25 | 26 28 0 |
| | DEC | $ \begin{vmatrix} 1 & 0 & 31 \\ 30 & 13 & 15 \end{vmatrix} $ | | | | (10.00.40 | 11 5 00 |
| | | (30 13 15 | 31 0 42 | 500 | -0 | 10 22 48 | 11 5 28 |
| 583. | JAN | 29 2 0 | 29 14 19 | 586. F. | JAN | 25 17 10 | 25 17 85 |
| c, | FEB | 27 14 44 | 28 1 23 | | FEB | 24 5 54 | 24 11 58 |
| | . 0 | ∫14 9 6 | 14 7 46 | 18 20 83 | MAR. | 25 18 89 | 26 4 50 |
| 19 3 6 | MAR. | 29 3 28 | 29 10 20 | | APRIL | 24 7 22 | 24 19 16 |
| | APRIL | 27 16 12 | 27 17 50 | | MAY . | 28 20 6 | 24 7 2 2 16 84 |
| | MAY . | 27 4 56 | 27 0 50 | | JUNE. | 22 8 50 | 1 |
| | JUNE. | 25 17 40 | 25 8 27 | H | 0 | 14 | |
| | JULY. | 25 6 24 | 24 17 44 | | JULY. | | 20 8 87 |
| | Avg | 23 19 8 | 23 5 39 | | Aug. | 20 10 18 18 28 2 | 18 17 7 |
| | _ 0 | ∫ 7 13 30 | | | SEPT. | 18 11 46 | |
| 1 | SEPT | (22 7 52 | 1 | | Nov. | 17 0 80 | |
| | Oct | 21 20 36 | 21 14 12 | | 70 | (16 18 14 | |
| | Nov. | 20 9 20 | | | DEC. | 81 7 86 | |
| | DEC | 19 22 4 | 20 4 41 | | | (9T (9C | 01 10 40 |
| L | <u> </u> | 1 | 1 | 11 | 1 | 1 | 1 |

| Mean Vornal Equinox. | Month. | Mean New Moon, (() Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|---------|-------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|-----------------------------|
| A.D. 587. | | d. h. m. | d. h. m. | A.D. 590. | | d. h. m. | d. h. m. |
| к. | JAN | 15 1 58 | 14 19 21 | Α. | JAN | 11 17 8 | 11 21 9 |
| March. \dagger d. h. m. | FEB. | 13 14 42 | 18 11 57 | March. | FEB. | 10 5 52 | 10 7 13 |
| 19 2 21 | MAR. | 15 8 26 | 15 5 5 | d. h. m. 18 19 48 | MAR. | 11 18 36 | 11 16 40 |
| | APRIL | 13 16 10 | 18 21 47 | 20 20 20 | APRIL | (10 7 20 | 10 2 6 |
| | MAY . | 18 4 54 | 18 18 6 | | 0 | 25 1 42 | 25 14 22 |
| | JUNE . | (11 17 88 | 12 2 32 | | MAY . | 9 20 4 | 9 12 14 |
| | () | 26 12 0 | 26 1 28 | | JUNE. | 8 8 48 | 7 28 53 |
| | July . | 11 6 22 | 11 14 1 | | July. | 7 21 32 | 7 13 31 |
| | Aug. | 9 19 6 | 10 0 8 | | Aug | 6 10 16 | 6 5 0 |
| | Sepr. | 8 7 50 | 8 9 25 | | SEPT. | 4 23 0 | 4 21 46 |
| | Oct. | 7 20 84 | 7 18 55 | | Ост | (4 11 44 | 4 14 54 |
| | Nov. | 6 9 18 | 6 5 8 | | 0 | 119 6 6 | 18 19 11 |
| | DEC. | 5 22 2 | 5 16 7 | | Nov | 3 0 28 | 8 7 24 |
| | APPROX. | 17 22 2 | 0 10 1 | | DEC | 2 13 12 | 2 22 32 |
| 588. | JAN | 4 10 47 | 4 4 9 | | | - 10 14 | |
| p.c. | FRB. | 2 28 81 | 2 17 18 | | | (1 1 56 | 1 11 51 |
| 18 8 10 | MAR. | 8 12 15 | 8 7 18 | 591. | JAN | 80 14 41 | 30 23 17 |
| | Arri. | 2 0 59 | 1 22 20 | G. | Fкв | | |
| | | 1 18 48 | 1 18 56 | | | (1 8 25 | 1 8 58 |
| | MAY O | 16 8 5 | 16 9 84 | 19 1 37 | MAR | 80 16 9 | 80 17 28 |
| | 100 F | 81 2 27 | 81 5 28 | | APRIL | 29 4 58 | 29 1 15 |
| | Junk . | 29 15 11 | 20 20 18 | | MAY . | 28 17 87 | 28 9 81 |
| | July . | 29 8 55 | 29 9 56 | | JUNE . | 27 6 21 | 26 19 13 |
| | Aug. | 27 16 89 | 27 22 21 | | July. | 26 19 5 | 26 7 14 |
| | SEPT. | 26 5 28 | 26 9 50 | | Aug. | 25 7 49 | 24 21 56 |
| | Oct. | 25 18 7 | 25 20 50 | | SEPT. | 28 20 88 | 23 15 0 |
| | 0 | (9 12 29 | 9 6 6 | | Oct | 28 9 17 | 23 9 26 |
| | Nov. | 24 6 51 | 24 7 42 | | Nov. | 21 22 1 | 22 8 56 |
| | DEC. | 28 19 85 | 28 18 82 | | DEC | 21 10 45 | 21 21 19 |
| 689. | JAH | 22 8 20 | 22 5 25 | 592. | JAN | 19 23 30 | 20 12 8 |
| 81 , | Fun | 20 21 4 | 20 16 28 | F.E. | FEB | 18 12 14 | 19 0 18 |
| 18 18 59 | MAR. | 22 9 48 | 22 4 2 | | 0 | 4 6 86 | 4 8 21 |
| | Arril | 20 22 82 | 20 16 88 | 18 7 26 | MAR | (19 0 58 | 19 10 6 |
| | 0 | 5 16 54 | 6 2 15 | | APRIL | 17 13 42 | 17 18 4 |
| | MAY . | 120 11 16 | 20 6 20 | | MAY . | 17 2 26 | 17 1 5 |
| | Junk . | 18 28 59 | 18 21 14 | | JUNE . | 15 15 10 | 15 8 10 |
| | JULY . | 18 12 48 | 18 12 48 | | July . | 15 8 54 | 14 16 28 |
| | Ana. | 17 1 27 | 17 4 21 | | A.ug. | J18 16 88 | 13 3 0 |
| 1 | Bert. | 15 14 11 | 15 19 18 | | 0 | (28 11 0 | 1 |
| | Oct. | 115 2 57 | 15 9 18 | | SEPT. | 12 5 22 | 11 16 29 |
| | 0 | 29 21 17 | 1 29 8 57 | | Oct. | 11 18 6 | 11 8 57 |
| | Nov. | . 18 15 80 | 18 22 14 | | Nov. | | 1 |
| | DEC. | . 18 4 29 | | | DEC. | 9 19 84 | 9 28 11 |
| | | | 1 | | | | |

| Mean Vernal Equinox. | Γ | 1 | ſ. | 1 | 1 | 1 | | <u> </u> |
|--|----------|--------|----------|----------|----------|--------|-------------|---------------------------|
| 598. D. C. R. R. C. R. R. R. R | Vernal | Month. | Moon. | Moon. | Vernal | Month. | Moon. | \mathbf{Moon}_{\bullet} |
| March. d. h. m. Feb. d. 6 21 2 7 10 14 d. h. m. | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| March. A. h. m. A 12 12 4 7 25 21 15 24 21 9 49 49 18 6 18 17 18 18 14 Mar. A 6 22 30 7 10 5 May A 6 22 30 7 10 5 May A 6 22 30 7 10 5 May A 6 22 30 7 10 5 May A 12 42 4 7 49 Aug. A 28 58 5 1 9 Aug. A 28 28 22 15 25 CO Aug. 29 5 20 29 8 42 25 25 25 25 25 25 25 | D. | JAN | 8 8 18 | 8 17 51 | | JAN | 5 23 28 | 5 15 41 |
| d. h. m. O | March | FEB | (621 2 | 7 10 14 | | FEB | 4 12 12 | 4 7 28 |
| 18 18 14 | | 0 | 21 15 24 | 21 9 49 | | MAR | 5 0 56 | 5 0 10 |
| MAY . 6 11 14 6 18 17 June . 4 28 58 5 1 9 Juny . 4 12 42 4 7 49 Aug {8 1 26 2 15 25 Color 17 19 48 18 0 37 Sept 1 14 10 {1 0 55 (30 15 88 30 4 27 Nov 29 4 22 28 22 19 Dec 28 17 6 28 17 88 Per 27 18 4 25 25 24 4 16 Nov 25 19 32 25 14 55 Color . 28 17 6 28 17 88 Per 27 18 4 27 18 18 Oct 28 17 6 28 17 88 Per 27 18 4 27 18 18 Oct 28 17 6 28 17 88 Per 27 18 4 27 18 18 Oct 28 17 6 28 17 88 Per 27 18 4 27 18 18 Oct 28 17 6 28 17 88 Per 25 19 32 25 14 55 Color . 25 16 25 2 25 Per 26 14 15 Per 25 20 8 26 8 29 May . 25 8 47 25 17 35 June . 28 21 81 24 1 4 July . 28 10 15 28 8 6 Oct 20 0 27 19 12 5 Nov 18 18 11 18 1 56 Dec 18 1 55 17 18 12 Per 20 0 14 48 20 0 48 Oct 20 0 27 19 12 5 Nov 18 18 11 18 1 56 Dec 18 1 55 17 18 12 Per 20 11 48 20 0 48 Oct 20 0 27 19 12 5 Nov 18 18 11 18 1 56 June . 18 16 16 7 17 0 12 Per 20 11 48 Juny . 14 17 35 15 4 56 June . 18 6 19 18 15 34 Juny . 12 19 3 18 0 26 Aug 11 7 47 11 8 31 Sept 9 20 31 9 16 58 Oct 9 9 15 9 2 5 Nov 7 21 59 7 12 52 Dec 17 21 59 | 18 13 14 | MAR. | 8 9 46 | 8 23 38 | | APRIL | 3 13 40 | 3 16 58 |
| June. 4 23 58 5 1 9 July 4 12 42 4 7 49 Aug. 3 1 26 2 15 25 Co 17 19 48 18 0 37 Sept. 1 14 10 1 0 55 Sept. 1 14 10 1 0 55 Sept. 27 18 4 27 18 18 Oct. 28 17 6 28 17 8 Sept. 27 18 4 27 18 18 Oct. 28 17 6 28 17 8 Sept. 27 18 4 27 18 18 Oct. 28 17 6 28 17 8 Sept. 27 18 4 27 18 18 Oct. 28 17 6 28 17 8 Sept. 27 18 4 27 18 18 Oct. 28 17 6 28 17 8 Sept. 27 12 48 Sept. 27 19 48 Sept. 28 18 30 22 5 14 55 Oct. 26 8 16 25 2 25 Sept. 27 19 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 28 18 30 Sept. 38 18 18 30 Sept. 38 18 18 30 Sept. 38 18 18 30 Sept. 38 18 18 30 Sept. 38 18 19 Sept. 38 18 19 Sept. 39 20 15 Sept. 30 16 18 Sept. 39 20 15 Sept. 30 16 18 Sept. 39 20 15 Sept. 30 16 18 Sept. 39 20 15 Sept. 30 16 18 Sept. 39 20 15 Sept. 30 16 18 Sept. 39 20 15 Sept. 30 16 18 Sept. 30 16 18 Sept. 30 16 18 Sept. 30 16 18 Sept. 30 18 18 Sept. 30 16 18 S | | APRIL | 6 22 30 | 7 10 5 | | MAY . | 3 2 24 | 8 8 59 |
| JULY . 4 12 42 4 7 49 Aug {8 1 26 2 15 25 O {17 19 48 18 0 37 Sept 1 14 10 {1 0 55 Oct {80 15 38 30 4 27 Nov 29 4 22 28 22 19 Dec 28 17 6 28 17 38 594. C. O {11 0 18 30 22 58 Feb 25 18 35 26 6 12 Mar 27 7 19 27 20 51 April 25 20 8 28 8 29 May . 25 8 47 25 17 35 June . 28 21 31 24 1 4 Juny . 28 10 15 28 8 6 Oct 20 0 27 19 12 5 Nov 20 0 27 19 12 5 Nov 18 18 11 18 1 56 Dec 18 1 55 17 18 12 595. B. Feb 16 14 39 16 12 9 Feb 16 16 7 17 0 12 April 15 4 51 15 15 51 May . 14 17 35 15 4 56 June . 18 6 19 18 15 34 Juny . 12 19 3 18 0 26 Aug 11 7 47 11 8 31 Sept 9 20 31 9 16 58 Nov 9 9 15 9 2 5 Nov 9 9 15 9 2 5 Nov 9 9 15 9 2 5 Nov 9 9 15 9 2 5 Nov 9 9 15 9 2 5 Nov 9 9 15 9 2 5 Nov 9 9 15 9 2 5 Nov 10 48 7 1 28 Nov 10 41 89 14 Aug 11 8 45 11 20 11 18 84 Aug 11 18 45 11 20 11 18 84 Aug 11 18 45 11 20 11 18 84 Aug 11 18 45 11 20 11 18 84 Aug 11 18 45 11 18 15 6 June . 13 6 19 18 15 34 Juny . 14 17 35 15 4 56 June . 13 6 19 18 15 34 Juny . 10 10 18 16 18 Aug 11 18 45 11 12 88 Juny . 11 18 45 Juny . 10 10 18 16 18 Aug 11 18 45 11 12 88 Juny . 11 18 45 Juny . 10 18 18 11 Aug 10 18 | 1 | MAY . | 6 11 14 | 6 18 17 | | JUNE . | (1158 | 1 28 25 |
| Aug \begin{cases} | | JUNE . | 4 23 58 | 5 1 9 | | 0 | 16 9 30 | 16 0 33 |
| Aug \begin{array}{c c c c c c c c c c c c c c c c c c c | 1 | JULY. | 4 12 42 | 4 7 49 | | | (1 3 52 | 1 11 58 |
| O | ŀ | AUG | (3 1 26 | 2 15 25 | | JULY. | 14 | |
| Sept 1 14 10 1 0 55 30 13 10 Oct 27 18 18 Oct 27 6 48 27 4 16 Nov 25 19 32 25 14 55 Oct 28 17 6 28 17 38 Oct 28 17 6 28 17 38 Oct 28 17 6 28 17 38 Oct 28 17 6 28 17 38 Oct 28 17 6 Oct 27 6 48 Oct 25 19 32 25 14 55 Oct 25 19 32 25 14 55 Oct 25 19 32 25 14 55 Oct 25 19 32 25 14 55 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 16 Oct 25 8 18 10 Oct 26 11 18 18 Oct 26 11 18 18 Oct 26 11 18 18 Oct 27 18 18 Oct 27 6 48 Oct 27 6 48 Oct 27 6 48 Oct 27 19 48 Oct 28 11 1 28 14 46 Oct 28 21 1 1 28 14 46 Oct 28 21 1 1 28 14 46 Oct 28 21 11 18 Oct 28 21 11 18 Oct 28 21 11 18 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct 28 21 11 Oct | | 0 | 17 19 48 | 18 0 37 | | Aug. | | |
| Oct { 1 2 54 30 18 10 30 4 27 Nov 29 4 22 28 22 19 Dec 28 17 6 28 17 88 Dec 26 19 32 25 14 55 Oct 27 6 48 27 4 16 Nov 25 19 32 25 14 55 Oct 26 19 32 25 14 55 Oct 26 19 32 25 14 55 Oct 26 19 32 25 14 55 Oct 26 19 32 25 14 55 Oct 27 6 48 27 4 16 Nov 25 19 32 25 14 55 Oct 26 19 32 25 14 55 Oct 26 19 32 25 14 55 Oct 26 19 32 25 14 55 Oct 26 19 32 Oct 27 7 19 48 Oct 26 19 20 14 Oct 27 19 12 5 Oct 26 19 20 14 Oct 27 19 12 5 Oct 26 19 20 14 Oct 27 19 12 5 Oct 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 Oct. 27 10 12 O | | SEPT | 1 14 10 | (1 0 55 | | | 27 18 4 | |
| Nov. 28 42 28 22 19 Dec. 28 17 6 28 17 38 594. | | | | | | _ | | |
| Nov 29 4 22 28 22 19 Dec 28 17 6 28 17 88 594. c. O {11 0 18 10 22 58} Feb (25 18 85) 26 6 12 18 19 3 Mar 27 7 19 27 20 51 April 25 20 3 26 8 29 May . 25 8 47 25 17 85 June . 28 21 31 24 1 4 July . 28 10 15 28 8 6 O (7 4 87 7 2 88 Aug (21 22 59 21 15 42 Sept 20 11 43 20 0 48 Oct 20 0 27 19 12 5 Nov 18 18 11 18 1 56 Dec 18 1 55 17 18 12 595. B. Feb 15 3 28 15 6 87 B. Feb 16 16 7 17 0 12 Arril 26 451 Aug 18 14 9 18 19 57 Sept 16 16 7 17 0 12 Arril 27 19 18 19 Arril 18 4 21 11 18 31 Arril 18 4 21 11 18 31 Arril 18 4 28 Dec 18 1 3 15 4 51 Arril 18 18 1 18 1 56 Dec 18 1 5 17 18 12 597. Feb 15 3 28 15 Cott 18 1 1 18 1 56 Dec 18 1 55 17 18 12 598. Feb 15 3 28 15 6 87 Arril 18 4 28 Dec 14 17 5 15 4 56 June . 18 6 19 13 15 34 July . 12 19 3 18 0 26 Aug 11 7 47 11 8 31 Sept 9 20 31 9 16 58 Oct 9 9 15 9 2 5 Nov 7 21 59 7 12 52 Dec 7 10 48 7 1 23 Oct 9 9 15 9 2 5 Nov 4 18 9 4 20 10 | | Oct | 1.7 | 30 4 27 | | | | |
| Dec 28 17 6 28 17 88 Dec 28 17 6 28 17 88 Dec 26 16 25 2 25 594. C. O (11 0 13 10 22 58 Feb (25 18 35 26 6 12 18 35 26 6 12 27 19 48 (25 18 35 26 6 12 27 7 19 27 20 51 18 19 8) Mar 27 7 19 27 20 51 25 18 19 25 20 8 26 8 29 May . 25 8 47 25 17 35 June . 23 21 31 24 1 4 July . 23 10 15 28 8 6 O (7 4 37 7 2 38 Aug (21 22 59 21 15 42 Sept 20 11 43 20 0 48 Oct 20 0 27 19 12 5 Nov 18 18 11 18 1 56 Dec 18 1 55 17 18 12 595. B. Feb 15 3 23 15 6 37 Nov 18 18 11 18 1 56 Dec 18 1 6 16 7 17 0 12 April 15 4 51 15 15 51 May . 14 17 35 15 4 56 June . 16 16 6 7 17 0 12 April 15 4 51 15 15 51 May . 14 17 35 15 4 56 June . 18 6 19 13 15 34 July . 12 19 3 13 0 26 Aug 11 7 47 11 8 31 Sept 9 20 31 9 16 58 Oct 9 9 15 9 2 5 Nov 7 21 59 7 12 52 Dec 7 10 43 7 12 38 Oct 9 9 15 9 2 5 Nov 7 21 59 7 12 52 Dec 7 10 43 7 1 23 Nov 4 18 9 4 20 10 | | Nov | , | | | | | |
| 594. C. O (11 0 18 10 22 58 FEE (25 18 35 26 6 12 18 19 3 MAR 27 7 19 27 20 51 APRIL 25 20 3 26 8 29 MAY . 25 8 47 25 17 35 JUNE. 28 21 31 24 1 4 JULY. 28 10 15 28 8 6 O (7 4 37 7 2 288 AUG (21 22 59 21 15 42 SEPT 20 11 43 20 0 48 OCT 20 0 27 19 12 5 Nov 18 18 11 18 1 56 DEC 18 1 55 17 18 12 595. JAN 16 14 39 16 12 9 E. FEE 15 3 28 15 6 87 JUNE. 16 16 7 17 0 12 APRIL AUG. APRIL AUG. APRIL AUG. APRIL APRIL AUG. APRIL APRIL AUG. APRIL AUG. APRIL AUG. APRIL AUG. APRIL APRIL AUG. APRIL APRIL AUG. AUG. APRIL AUG. APRIL AUG. AUG. APRIL AUG. AUG. APRIL AUG. AUG. APRIL AUG. AUG. APRIL AUG. AUG. | | _ | 28 17 6 | | | | 2 1 | |
| C. O | | | | | | 2000 | (20 0 20 | 20 2 20 |
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| Aug 9 11 38 9 17 1 Sept 8 0 22 8 6 0 Oct 7 13 6 7 18 5 Nov 6 1 50 6 5 33 20 20 12 20 14 4 Dec 5 14 34 5 16 38 607. A. Feb 2 16 3 2 14 2 18 22 33 Mar 4 4 47 4 0 33 April (2 6 15 1 23 31) May 6 May 6 June . 30 7 43 30 3 43 July . 29 20 27 29 19 28 Aug 28 9 11 28 11 28 Sept 4 15 32 4 5 5 Oct 4 15 32 4 5 5 Oct 2 17 0 2 17 15 Nov 2 17 0 2 17 15 Sept 26 21 55 27 2 59 Oct 28 1 49 22 16 48 Nov 21 14 38 21 11 38 Nov 24 23 23 25 6 58 | 1 | JULY. | 10 22 54 | 1 1 | | 1 | | 1 |
| Sept. 8 0 22 8 6 0 7 18 5 Nov. 2 17 0 2 17 15 Nov. 6 1 5 14 34 5 16 38 20 12 20 14 4 Dec. 5 14 34 5 16 38 2 14 2 18 22 38 Mar. 4 4 47 4 0 33 April 2 17 31 2 11 31 (2 6 15 1 23 31 18 59 31 12 55 June 30 7 43 30 3 43 July 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 29 20 27 29 19 28 Aug. 26 11 37 25 28 50 Oct. 26 10 39 26 17 35 Oct. 26 10 39 26 17 35 Oct. 26 10 39 26 17 35 Oct. 26 10 39 26 17 35 Oct. 28 1 49 22 16 48 Nov. 21 14 38 21 11 38 | | | 1 | 1 | | | 1 | 1 |
| OCT 7 13 6 7 18 5 Nov 2 17 0 2 17 15 Nov 6 1 50 6 5 33 20 20 12 20 14 4 DEC 5 14 34 5 16 38 21 4 2 18 22 38 MAR 4 4 47 4 0 33 21 13 1 22 11 31 22 11 31 25 31 18 59 31 12 55 JUNE . 30 7 43 30 3 43 JULY . 29 20 27 29 19 28 Aug 2 26 21 55 27 2 59 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 26 10 39 26 17 35 Oct 28 1 49 22 16 48 Nov 21 14 38 21 11 38 | | 1 | 1 | 8 6 0 | | _ | | |
| Nov. 6 | | | l . | 7 18 5 | | | 1 | |
| 607. A. | | | 1 | 6 5 33 | | Nov. | 1 | |
| 607. A. Jan. | | 0 | 12 | | | DEC |) | |
| 607. A. Feb 2 16 3 2 14 2 18 22 38 Mar 4 4 47 4 0 33 April 2 17 31 2 11 31 | | l | 1 - | 5 16 38 | | | (51 10 20 | ••• |
| A. Feb. 2 16 3 2 14 2 D. D. | 207 | T. 37 | 4 9 10 | 4 9 97 | | i _ | c | 1 5 27 |
| TES. 28 19 57 1 8 28 | | | | | 11 | JAN | 30 7 13 | 30 20 23 |
| APRIL 2 17 31 2 11 31 | | 1 | | 1 | | FEB | 28 19 57 | |
| May 6 2 6 15 1 23 31 18 16 5 Mar. 30 8 41 30 18 1 4 PRIL 28 21 25 29 1 42 4 | 18 22 35 | | | 1 | | 0 | (15 14 19 | |
| MAY Ó 17 0 37 17 9 38 31 12 55 31 18 59 31 12 55 31 18 59 31 12 55 30 7 43 30 3 43 30 | | 1111111 | | 1 | 18 16 5 | MAR | (30 8 41 | + 1 |
| May 28 10 9 28 8 31 30 7 43 30 3 43 June 26 22 53 26 15 31 June 26 22 53 26 15 31 June 26 22 53 26 15 31 June 26 21 55 27 2 59 Oct. 26 10 39 26 17 35 Oct. 26 10 39 26 17 35 Oct. 26 10 39 25 6 58 Nov. 21 14 33 21 11 38 Oct. 21 14 33 21 11 38 Oct. 21 14 33 21 11 38 Oct. | | MAYA | 11 | 1 | | APRIL | 28 21 25 | 29 1 42 |
| June. 30 7 43 30 3 43 July. 29 20 27 29 19 28 Aug. 28 9 11 28 11 28 Sept. 26 21 55 27 2 59 Oct. 26 10 39 26 17 35 O (10 5 1 9 17 18 Nov. 24 23 28 25 6 58 June. 26 22 58 26 15 31 July. 26 11 37 25 23 50 Aug. 25 0 21 24 10 27 Sept. 28 18 48 8 23 46 Sept. 23 13 5 23 0 4 Oct. 23 1 49 22 16 48 Nov. 21 14 33 21 11 38 | | | 11 | 1 | | MAY . | 28 10 9 | 28 8 31 |
| July . 29 20 27 29 19 28 Aug 28 9 11 28 11 28 Seft 26 21 55 27 2 59 Oct 26 10 39 26 17 35 O (10 5 1 9 17 18 Nov {24 23 23 25 6 58} July . 26 11 37 25 28 50 Aug 26 11 37 25 28 50 Aug 26 11 37 25 28 50 Aug 26 11 37 25 28 50 Aug 26 11 37 25 28 50 Aug 25 0 21 24 10 27 O (8 18 48 8 28 46 Oct 28 14 9 22 16 48 Nov 21 14 38 21 11 38 | , | June | 1 | 1 | | 1 _ | 26 22 53 | 26 15 81 |
| Aug. 28 9 11 28 11 28 | | | | | | JULY . | 26 11 37 | 25 28 50 |
| Sept. 26 21 55 27 2 59 Oct. 26 10 39 26 17 35 Oct. 26 10 39 26 17 35 Oct. 28 13 5 23 0 4 Oct. 28 14 9 22 16 48 Nov. 24 23 23 25 6 58 Nov. 21 14 33 21 11 38 | | 1 . | | | | Aug | 25 0 21 | 24 10 27 |
| Oct. 26 10 39 26 17 35 SEPT. 23 13 5 23 0 4 Oct. 21 14 33 21 11 38 | | 1 - | | | | 0 | (8 18 48 | 8 23 46 |
| Ocr. 28 1 49 22 16 48 Nov. 24 28 28 25 6 58 Nov. 21 14 38 21 11 38 | | | | | | 1 - | 23 13 5 | 23 0 4 |
| Nov 21 14 33 21 11 38 | | l l | | | 1 | Oct | 23 1 49 | 22 16 48 |
| | | - | 12 | | | Nov | 21 14 33 | 21 11 88 |
| | | DEC. | 24 12 7 | 24 19 4 | 1 | DEC | 21 3 17 | 21 7 10 |
| | | | ' | | llo | | | |

| | V | | SKUSALEM U | IVIL TIME. | | | |
|----------------------------|--------|-------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|-----------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
| A.D. 611. | | d. h. m. | d. h. m. | A.D. 614. | | d. h. m. | d. h. m. |
| C. | JAN | 19 16 1 | 20 1 48 | F. | 0 | (1 12 50 | 2 0 25 |
| | FEB | 18 4 45 | 18 18 7 | | Jan | 16 7 12 | 16 0 2 |
| March. | 0 | (423 7 | 4 17 44 | March. | FEB | 14 19 56 | 14 15 16 |
| d. h. m. 18 21 53 | MAR. | 19 17 30 | 20 7 22 | d. h. m. 18 15 19 | MAR. | 16 8 40 | 16 7 24 |
| 10 11 00 | APRIL | 18 6 14 | 18 17 40 | 10 10 10 | APRIL | 14 21 24 | 14 23 46 |
| | MAY. | 17 18 58 | 18 1 44 | | MAY . | 14 10 8 | 14 15 34 |
| | JUNE . | 16 7 42 | 16 8 36 | | June . | (12 22 52 | 13 6 4 |
| | July. | 15 20 26 | 15 15 22 | | O O | 27 17 14 | 27 7 49 |
| | Aug. | (14 9 10 | 13 23 7 | | _ | 12 11 36 | |
| | 0 | 29 3 32 | 29 7 52 | | JULY. | 11 0 20 | 12 18 55 |
| | SEPT. | 1 | | | Aug | | 11 6 16 |
| | | 1 | 12 8 50 | | SEPT | 9 13 4 | 9 16 41 |
| | Ocr | 12 10 38 | 11 21 14 | | Oct | 9 1 48 | 9 2 46 |
| | Nov. | 10 23 22 | 10 12 35 | | Nov | 7 14 32 | 7 13 6 |
| | DEC | 10 12 6 | 10 6 23 | | DEC | 7 3 16 | 6 23 53 |
| | | | | | 0 | 21 21 38 | 22 4 29 |
| 612. | JAN | 9 0 50 | 9 1 32 | 615. | JAN | 5 16 0 | 5 11 12 |
| B. A. | FEB | 5 7 13 34 | 7 20 26 | E. | FEB. | 4 4 44 | 3 23 8 |
| | 0 | 22 7 56 | 22 7 21 | 18 21 8 | MAR. | 5 17 28 | 5 11 51 |
| 18 8 42 | MAR. | 8 2 18 | 8 13 28 | 10 21 0 | APRIL | 4 6 12 | 4 1 31 |
| | APRIL | 6 15 2 | 7 4 7 | | MAY. | 3 18 56 | 3 16 9 |
| | MAY . | 6 8 46 | 6 15 42 | | JUNE. | (2 7 40 | 2 7 26 |
| | June. | 4 16 30 | 5 0 51 | | 0 | 17 2 2 | 17 0 4 |
| | July . | 4 5 14 | 4 8 30 | | | (1 20 24 | 1 22 45 |
| | Aug | ſ 2 17 58 | (2 15 47 | | JULY. | 81 9 8 | 31 13 33 |
| | 0 | 17 12 20 | 1217 927 | | Aug. | 200 04 40 | 30 3 22 |
| | | (1 6 42 | 1 (31 23 41 | | SEPT. | 1 | 28 16 11 |
| | SEPT | 80 19 26 | | | OCT. | 27 23 20 | 28 4 10 |
| | Oct | | | | | 26 12 4 | 26 15 36 |
| | Nov. | 28 20 54 | | | Nov. | (11 6 26 | 11 3 41 |
| | DEC. | 00 0 00 | | ļ | 0 | 26 0 48 | 1 |
| | LOBO | 20 0 00 | 10 11 | <u> </u> | DEC. | . (20 0 40 | 1 |
| 1 | | 20.00.00 | 00 10 50 | 616. | JAN. | 1 | 24 13 8 |
| 613. | JAN. | | | D.C. | FEB. | | 22 23 25 |
| G. | FEB. | 1 | | 18 2 57 | MAR. | . 23 15 1 | 23 9 48 |
| 18 9 81 | MAR. | | | | APRIL | . 22 3 45 | 21 20 57 |
| | APRIL | 1 | 1 | | MAX | . 21 16 29 | |
| | MAY . | . 1 | | | 0 | 5 10 5 | 5 17 8 |
| | June | į. | 1 | | June | . 20 5 1 | 19 23 24 |
| | July | . 28 2 47 | 1 | | July | . 19 17 57 | 19 14 47 |
| | Aug. | . 21 15 81 | 21 16 22 | | Aug. | . 18 6 41 | 18 6 56 |
| | SEPT. | . 20 4 15 | 5 20 1 4 | : | SEPT. | | 16 23 |
| | Oor. | . 19 16 59 | 19 10 41 | | Ocr. | . 16 8 9 | 16 14 2 |
| | Nov. | . 18 5 4 | 3 17 21 88 | : | Nov. | . 14 20 5 | 3 15 4 4 |
| | DEC. | . 17 18 2 | 7 17 10 5 | • | DEC. | 1 | 7 14 17 3 |
| 1 | | | 1 | | | | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|--|----------------------------|--------|---|------------------------------------|
| A.D. 617. | | d. h. m. | d. h. m. | A.D. 620. | | d. h. m. | d. h. m. |
| в. | JAN | 12 22 22 | 13 5 5 | F.E. | JAN | 10 13 31 | 10 20 40 |
| d. $h.$ $m.$ | FEB | 11 11 6 | 11 15 13 | March. | FEB | 9 2 15 | 9 14 14 |
| 18 8 46 | MAR. | 12 23 50 | 13 0 18 | d. h. m. 18 2 12 | MAR. | 9 14 59 | 10 4 58 |
| | APRIL | (11 12 34 | 11 8 55 | | APRIL | 8 3 43 | 8 16 36 |
| | 0 | 26 6 56 | 26 18 47 | | MAY . | 7 16 27 | 8 1 37 |
| | MAY . | 11 1 18 | 10 17 55 | | June . | 6 5 11 | 6 8 57 |
| | June. | 9 14 2 | 9 4 12 | | JULY. | 5 17 55 | 5 15 39 |
| | JULY. | 9 2 46 | 8 16 31 | | Aug | 4 6 39 | 3 22 53 |
| | Aug | 7 15 30 | 7 7 11 | | SEPT | 2 19 23 | 2 7 37 |
| | SEPT | 6 4 14 | 5 23 51 | | | (287 | 1 18 43 |
| | Oct | (5 16 58 | 5 17 37 | | Oct | 31 20 51 | 31 8 39 |
| | 0 | 20 11 20 | 20 2 31 | | Nov | 30 9 35 | 30 1 18 |
| | Nov | 4 5 42 | 4 11 18 | | DEC | 29 22 19 | 29 19 51 |
| | DEC | 3 18 26 | 4 3 49 | | | | |
| | | (2 7 10 | 2 18 24 | 621. | т | 28 11 3 | 28 14 56 |
| 618. | JAN | 31 19 54 | 2 10 24 | D. | JAN | | 12 8 44 |
| Α. | FEB | (91 19 94 | 1 6 42 | | O Tran | $\begin{cases} 12 & 5 & 25 \\ 26 & 23 & 48 \end{cases}$ | 27 9 3 |
| | LEB. | (2 8 38 | 2 16 51 | 18 8 1 | FEB | 28 12 32 | 29 0 52 |
| 18 14 35 | MAR | 31 21 22 | 1 | 18 8 1 | | 27 1 16 | 27 13 51 |
| ŀ | | (15 15 44 | $\begin{bmatrix} 1 & 1 & 16 \\ 15 & 21 & 22 \end{bmatrix}$ | | APRIL | | 27 13 51 |
| 1 | APRIL | 30 10 6 | 30 8 45 | | MAY . | 26 14 0 25 2 44 | 25 8 28 |
| 1 | MAY . | 29 22 50 | 29 16 15 | | JUNE . | 24 15 28 | 24 15 56 |
| | JUNE. | 28 11 34 | 28 0 49 | | JULY. | (8 9 50 | 8 4 87 |
| | JULY. | 28 0 18 | 27 11 29 | | 0 | | 22 23 33 |
| | Aug. | 26 13 2 | 26 0 55 | | Aug | 21 16 56 | 21 8 18 |
| | SEPT. | 25 1 46 | 24 17 13 | | SEPT | 21 5 40 | 20 18 47 |
| | | (9 20 8 | 9 18 28 | | Nov. | 19 18 24 | 19 7 27 |
| | Ocr | 24 14 30 | 24 11 35 | | | 19 7 8 | 18 22 20 |
| 1 | Nov. | 23 3 14 | 23 6 44 | | DEC | 19 1 0 | 10 22 20 |
| | DEC. | 22 15 58 | 23 1 7 | | _ | | |
| | | | | 622. | JAN | 17 19 53 | 17 15 4 |
| 619. | JAN | 21 4 42 | 21 17 22 | с. | _ 0 | $\int_{10}^{1} 1415$ | 1 22 51 |
| G. | FEB | 19 17 27 | 20 6 50 | 40 40 40 | FEB | 16 8 37 | 16 8 47 |
| 18 20 24 | MAR | 21 6 11 | 21 17 29 | 18 13 50 | MAR. | 17 21 21 | 18 2 21 |
| | 0 | $\int 5 0 33$ | 4 21 5 | | APRIL | 16 10 5 | 16 18 42 |
| , | APRIL | 19 18 55 | 20 1 53 | | MAY . | 15 22 49 | 16 8 59 |
| | MAY . | 19 7 39 | 19 8 55 | | June . | 14 11 33 | 14 20 59 |
| 4 | June. | 17 20 23 | 17 15 38 | | JULY. | \frac{14}{0.17} | 14 7 4 |
| | JULY. | 17 9 7 | 16 23 10 | | . 0 | 128 18 39 | 28 6 46 |
| | Aug | 15 21 51 | 15 8 34 | | Aug | 12 13 1 | 12 16 1 |
| | SEPT | $\int 14 \ 10 \ 35$ | 13 20 42 | | SEPT | 11 1 45 | 11 0 43 |
| | 0 | 29 4 57 | 29 9 24 | | Ост | 10 14 29 | 10 10 1 |
| 113 | Ocr | 13 23 19 | 13 11 57 | | Nov | 9 3 13 | 8 20 23 |
| | Nov. | 12 12 3 | 12 5 53 | | DEC | 8 15 57 | 8 8 4 |
| | DEC | 12 0 47 | 12 1 21 | -1 | 0 | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. |
|------------------------------|------------------------------|--|--|---|----------------------|--|--|
| A.D. 623. B. March. | Jan O Feb | d. h. m. 7 4 41 21 23 3 5 17 25 | d. h. m. 6 21 8 22 11 42 5 11 30 | A.D. 626. E. March. d. h. m. 18 13 5 | Jan Feb Mar | d. h. m. 3 19 51 2 8 35 3 21 19 | d. h. m. 4 3 55 2 14 37 3 23 58 |
| d. h. m. 18 19 39 | MAR APRIL MAY . | 7 6 9 5 18 53 5 7 37 | 7 2 58 5 19 3 5 11 4 | 10 13 9 | APRIL MAY O | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 2 8 32 1 17 0 17 4 24 |
| | June . July . O | 3 20 21 { 3 9 5 18 3 27 | 4 2 16 3 16 5 17 15 52 | | JUNE . | 31 11 31 30 0 15 29 12 59 | 31 2 21 29 13 29 29 2 57 27 18 49 |
| | Aug Sept Oct | $ \begin{cases} 1 & 21 & 49 \\ 81 & 10 & 83 \\ 29 & 23 & 17 \\ 29 & 12 & 1 \end{cases} $ | 2 4 21 31 15 25 30 1 52 29 12 15 | | Aug Sept Oct | 28 1 43 26 14 27 26 3 11 5 9 21 33 | 26 12 21 26 6 27 9 12 29 |
| 624. | Nov DEC JAN | 28 0 45 27 13 29 26 2 13 | 27 22 53 27 9 55 25 21 21 | 627. | Nov Dec Jan | 124 15 55 24 4 89 22 17 23 | 24 23 53 24 15 38 23 5 6 |
| 18 1 28 | FEB MAR APRIL MAY . | 24 14 58 25 3 42 23 16 26 28 5 10 | 24 9 22 24 22 15 23 12 8 23 2 59 | р. 18 18 54 | FEB MAR APRIL MAY . | 21 6 7 22 18 52 21 7 36 20 20 20 | 21 16 10 28 1 14 21 8 56 20 16 10 |
| | O June. July. | 6 23 32 21 17 54 21 6 38 | 7 0 29 21 18 21 21 9 37 | | JUNE . JULY . Aug | 19 9 4 18 21 48 17 10 32 | 18 23 56 18 9 24 16 21 26 |
| | Aug Sept Oct Nov | 19 19 22 18 8 6 17 20 50 16 9 34 | 20 0 11 18 13 48 18 2 28 \$16 14 22 | | SEPT OCT Nov DEC | | 15 12 25 15 6 1 14 1 7 13 20 11 |
| 625. | O Dec Jan | $\begin{cases} 1 & 3 & 56 \\ 15 & 22 & 18 \end{cases}$ 14 11 3 | 16 1 38 14 12 20 | 628. c.b. | Jan Feb | 12 2 13 10 14 57 | 12 13 41 11 4 34 11 16 29 |
| 18 7 17 | FEB MAR APRIL MAY . | 12 28 47 14 12 31 18 1 15 (12 13 59 | 12 22 30 14 8 31 12 18 57 12 6 26 | 18 0 43 | MAR. | 25 22 8 9 16 25 9 5 9 | 25 17 56 10 1 47 9 9 17 |
| | O June. July. | 127 8 21 11 2 43 10 15 27 | 27 16 57 10 19 31 10 10 14 9 2 12 | III. | JUNE JULY AUG. SEPT. | . 7 6 37 . 5 19 23 | 6 22 57 |
| | Aug Sept Oct Nov | 7 16 55 7 5 89 5 18 28 | 7 18 41 7 10 49 6 1 57 | | Oct. Nov. | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 9 3 7 52 3 2 0 37 |
| | DEC. | . 5 7 7 | 1 | 11 | DEC. | 81 11 | 1 81 15 7 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox, | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|------------------------------------|----------------|----------------------------|--------|------------------------------------|----------------|
| A.D. 629. | • | d. h. m. | d. h. m. | A.D. 632. | | d. h. m. | d. h. m. |
| Δ. | JAN | 29 23 45 | 30 9 41 | E.D. | 0 | (12 20 33 | 13 8 47 |
| | FEB | 28 12 29 | (1 1 50 | | JAN | 27 14 55 | 27 8 17 |
| d. $h.$ $m.$ | 0 | (15 6 51 | 15 1 35 | d. $h.$ $m.$ | FEB | 26 3 39 | 25 22 57 |
| 18 6 32 | MAR | (30 1 13 | (30 14 55 | 17 23 58 | Mar | 26 16 23 | 26 14 30 |
| | APRIL | 28 13 57 | 29 1 7 | | APRIL | 25 5 7 | 25 6 26 |
| | MAY . | 28 2 41 | 28 9 8 | | MAY. | 24 17 51 | 24 22 3 |
| | JUNE . | 26 15 25 | 26 16 3 | | June. | 23 6 35 | 23 12 40 |
| | JULY . | 26 4 9 | 25 22 57 | | 0 | (8 0 57 | 7 15 8 |
| | AπG | 24 16 53 | 24 6 56 | | JULY. | 22 19 19 | 23 1 54 |
| | 0 | (8 11 15 | 8 15 14 | | Aug | 21 8 3 | 21 13 47 |
| | SEPT | 23 5 37 | 22 16 53 | | SEPT | 19 20 47 | 20 0 45 |
| | Ocr | 22 18 21 | 22 5 27 | | Ост | 19 9 31 | 19 11 20 |
| | Nov | 21 7 5 | 20 20 47 | | Nov | 17 22 15 | 17 21 59 |
| | DEC | 20 19 49 | 20 14 27 | | DEC | 17 10 59 | 17 8 50 |
| | | | | | 0 | (1 5 22 | 1 12 31 |
| 630. | JAN | 19 8 34 | 19 9 21 | 633. | JAN | 15 28 44 | 15 19 56 |
| G. | FEB | 17 21 18 | 18 3 58 | C. | FEB. | 14 12 28 | 14 7 25 |
| | 0 | (4 15 40 | 4 15 37 | 18 5 47 | Mar. | 16 1 12 | 15 19 81 |
| 18 12 21 | MAR | 19 10 2 | 19 20 52 | 20 0 21 | APRIL | 14 13 56 | 14 8 35 |
| 1 | APRIL | 17 22 46 | 18 11 16 | | MAY . | 14 2 40 | 13 22 46 |
| | MAY . | 17 1 1 30 | 17 22 50 | | June . | (12 15 24 | 12 13 52 |
| | June . | 16 0 14 | 16 8 6 | | 0 | 27 9 46 | 27 7 32 |
| 1 1 2 | JULY. | 15 12 58 | 15 16 0 | | JULY. | 12 4 8 | 12 5 19 |
| | Aug | §14 1 42 | 13 23 36 | | Aug | 10 16 52 | 10 20 30 |
| | 0 | 28 20 4 | 28 16 23 | | SEPT | 9 5 36 | 9 10 54 |
| | SEPT | 12 14 26 | 12 7 51 | | Ост | 8 18 20 | 9 0 20 |
| | Oct | 12 3 10 | 11 17 33 | } | Nov | 7 7 4 | 7 12 51 |
| | Nov. | 10 15 54 | 10 5 10 | | Dec | (6 19 48 | 7 0 32 |
| | DEC | 10 4 38 | 9 18 55 | | 0 | 21 14 10 | 21 11 41 |
| | _ | | | 634. | JAN | 5 8 32 | 5 11 30 |
| 631. F. | JAN | 8 17 23 | 8 10 37 | В. | FEB | 3 21 16 | 3 21 45 |
| 1 | FEB | 7 6 7 | 7 3 41 | 18 11 36 | MAR. | 5 10 0 | 5 7 85 |
| 18 18 10 | MAR. | 8 18 51 | 8 21 16 | | APRIL | 3 22 44 | 3 17 26 |
| İ | APRIL | 7 7 35 | 7 14 11 | | MAY . | 3 11 28 | 3 4 3 |
| | MAY . | 6 20 19 | 7 5 29 | | JUNE. | (2 0 12 | 1 16 6 |
| | JUNE. | 5 9 3 | 5 18 41 | | 0 | 16 18 34 | 17 0 28 |
| | JULY. | 4 21 47 | 5 5 47 | | T | (1 12 56 | 1 5 57 |
| | Aug | 3 10 31 | 3 15 22 | | July. | (31 1 40 | 30 21 26 |
| | SEPT | 1 23 15 | 2 0 19 | | Aug | 29 14 24 | 29 13 57 |
| | Ocr | 31 11 59 31 0 43 | 1 9 29 | | SEPT | 28 3 8 | 28 6 87 |
| | Nov | 29 13 27 | 30 19 27 | | Oct | 27 15 52 | 27 22 36 |
| | DEC. | 29 13 27 | 29 6 30 | | Nov | 26 4 36 | 26 13 18 |
| | DEC | 25 4 11 | 28 18 47 | | DEC | 25 17 20 | 26 2 24 |
| | | 1 | | | | la [| U III |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|-----------|----------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 635. | | d. h. m. | d. h. m. | A.D. 638. | | d. h. m. | d. h. m. |
| A | JAN | 24 6 5 | 24 13 48 | D. | JAN | 20 21 15 | 21 4 33 |
| March. d. h. m. | FEB | 22 18 49 | 22 23 38 | March. | FEB | 19 9 59 | 19 21 57 |
| 18 17 25 | MAR. | 24 7 33 | 24 8 19 | d. h. m. 18 10 51 | MAR. | 20 22 43 | 21 12 32 |
| | APRIL | 22 20 17 | 22 16 31 | 10 10 51 | APRIL | 19 11 27 | 20 0 3 |
| | | (7 14 39 | 8 1 40 | | | | |
| İ | O May. | 22 9 1 | 22 1 7 | | MAY. | 19 0 11 | 19 9 0 |
| | June. | 20 21 45 | 20 11 7 | | JUNE. | 17 12 55 | 17 16 23 |
| | | 20 10 29 | 10 | | JULY. | 17 1 39 | 16 23 13 |
| | July. | | 19 23 21 | | Aυσ | 15 14 23 | 15 6 39 |
| | Aug | 18 23 13 | 18 14 6 | | SEPT | 14 3 7 | 13 15 40 |
| | SEPT | 17 11 57 | 17 7 3 | | Oct | 13 15 51 | 13 2 57 |
| | Oct | (17 0 41 | 17 1 13 | | Nov | 12 4 35 | 11 16 58 |
| | 0 | (31 19 3 | 31 11 12 | | DEC | 11 17 19 | 11 9 30 |
| | Nov | 15 18 25 | 15 19 22 | | | | |
| | DEC | 15 2 9 | 15 12 13 | 639. | JAN | 10 6 4 | 10 3 50 |
| 636. | JAN | 13 14 54 | 14 2 56 ⁻ | c. | FEB | (81848 | 8 22 34 |
| G.F. | FEB | 12 3 38 | 12 15 7 | | 0 | 23 13 10 | 23 15 12 |
| 17 23 14 | MAR | 12 16 22 | 13 1 0 | 18 16 40 | MAR | 10 7 32 | 10 16 21 |
| | APRIL | (11 5 6 | 11 9 7 | | APRIL | 8 20 16 | 9 7 59 |
| | 0 | 25 28 28 | 26 4 3 | | MAY . | 8 9 0 | 8 20 54 |
| | MAY . | 10 17 50 | 10 16 18 | | JUNE . | 6 21 44 | 7 7 16 |
| | June . | 9 6 34 | 8 23 34 | | JULY. | 6 10 28 | 6 15 49 |
| } | JULY . | 8 19 18 | 8 8 0 | | Aug | (4 23 12 | 4 23 36 |
| | Aug. | 7 8 2 | 6 18 41 | | 0 | 19 17 34 | 19 11 28 |
| | SEPT | 5 20 46 | 5 8 14 | | SEPT | 3 11 56 | 3 7 36 |
| | Oct | (5 9 30 | 5 0 44 | | Oct | 3 0 40 | 2 16 41 |
| | 0 | 20 8 52 | 20 3 7 | | Nov | 1 13 24 | ſ 1 3 24 |
| | Nov. | 8 22 14 | 3 19 22 | | DEC | (1 2 8 | [130 16 5] |
| | DEC. | 8 10 58 | 3 14 46 | | DEC | 30 14 52 | 30 6 44 |
| | | | | | | , | |
| 637. | JAN | 1 28 42 | 2 9 16 | 640. | JAN | 29 3 36 | 28 23 0 |
| E. | - | (81 12 26 | 1 1 00 | B.A. | | (12 21 58 | 13 7 21 |
| | FEB | | 1 1 32 | | FEB | 27 16 20 | 27 16 11 |
| 18 5 8 | MAR | 2 1 10 | 2 14 51 | 17 22 29 | MAR. | 28 5 4 | 28 9 20 |
| | | (81 13 54 | 1 1 17 | 11 22 29 | APRIL | 26 17 48 | 27 1 26 |
| | 0 | \(\) 15 8 16 | 315 4 50 | | MAY . | 26 6 32 | 26 15 42 |
| | APRIL | (80 2 38 | (30 9 29 | | JUNE . | 24 19 16 | 25 3 55 |
| | MAY . | 29 15 22 | 29 16 23 | | JULY. | 24 19 10 | 24 14 22 |
| | JUNE . | | 27 23 3 | | 1 | (8 2 22 | |
| | July . | | 27 6 38 | | Aug | 22 20 44 | 1 |
| | Aug. | | 25 16 11 | | | 21 9 28 | 1 |
| | SEPT. | 1 | 24 4 29 | | SEPT | 20 22 12 | |
| | 0 | 9 12 40 | 9 17 40 | | Nov. | 19 10 56 | |
| | Ocr. | $\{24 \ 7 \ 2$ | | | DEC. | 18 23 40 | |
| | Nov. | 22 19 46 | 22 13 51 | | 1080. | 10 20 40 | 10 10 00 |
| 1 | Drc. | . 22 8 80 | 22 9 18 | 11.00 | 1 | J. | <u> </u> |

| | | | | | | | |
|----------------------------|--------|------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ect.) |
| A.D. 641. | | d. h. m. | d. h. m. | A.D. 644. | | d. h. m. | d. h. m. |
| G. | JAN | 17 12 25 | 17 5 37 | D.C. | JAN | 15 3 35 | 15 12 41 |
| 35 1 | 0 | (1 6 47 | 1 20 0 | d. h. m. | FEB | 13 16 19 | 13 23 9 |
| d. h . m . | FEB | [16 1 9] | 15 19 27 | 17 21 44 | Mar | 14 5 3 | 14 8 10 |
| 18 4 18 | MAR | 17 13 53 | 17 10 18 | | APRIL | 12 17 47 | 12 16 17 |
| | APRIL | 16 2 37 | 16 1 51 | | MAY . | (12 6 31 | 12 0 23 |
| | MAY . | 15 15 21 | 15 17 35 | | 0 | 27 0 53 | 27 11 14 |
| | June . | 14 4 5 | 14 8 47 | | June . | 10 19 15 | 10 9 25 |
| | July. | (13 16 49 | 13 22 53 | | July . | 10 7 59 | 9 20 23 |
| | 0 | 28 11 11 | 27 23 15 | | Aug | 8 20 43 | 8 9 53 |
| | Aug | 12 5 33 | 12 11 39 | | SEPT | 7 9 27 | 7 1 55 |
| | SEPT | 10 18 17 | 10 23 17 | | Oct | 6 22 11 | 6 19 48 |
| | Ocr | 10 7 1 | 10 10 17 | | Nov | 5 10 55 | 5 14 22 |
| | Nov | 8 19 45 | 8 21 4 | | 0 | 20 5 17 | 19 21 17 |
| | DEC | 8 8 29 | 8 7 53 | | DEC | 4 23 39 | 5 8 10 |
| | _ | 0.04.44 | | | | | |
| 642. | JAN | 6 21 14 | 6 18 47 | 645. | JAN | 3 12 23 | 407 |
| F. | FEB | 5 9 58 | 5 5 51 | в. | FEB | 2 1 7 | 2 13 32 |
| 18 10 7 | MAR. | 6 22 42 | 6 17 19 | 18 3 33 | MAR | 3 13 51 | 4 0 24 |
| 1 | APRIL | 5 11 26 | 5 5 33 | | APRIL | 2 2 35 | 2 9 10 |
| | MAY . | 5 0 10 | 4 18 56 | | M | (1 15 19 | 1 16 83 |
| 1 | JUNE. | 3 12 54 | 8 9 29 | | MAY . | 31 4 3 | 80 28 38 |
| | JULY. | 3 1 38 | 8 0 50 1 16 23 | | JUNE . | 29 16 47 | 29 7 12 |
| | Aug | 31 3 6 | 31 7 29 | | JULY. | 29 5 31 | 28 16 38 |
| | G | | 29 21 43 | | AUG | 27 18 15 | 27 4 45 |
| | SEPT. | 29 4 34 | 29 10 56 | | SEPT | 26 6 59 | 25 19 54 |
| | Nov. | | 27 23 13 | | Oct | 25 19 43 | 25 13 48 |
| | | (12 11 40 | | | Nov | 1 | 24 9 2 |
| | DEC. | 27 6 2 | 1 | | DEC | 23 21 11 | 24 4 15 |
| | - | , | | 040 | _ | 20 0 55 | 00 01 40 |
| 643. | JAN. | | 25 21 4 | 646. | JAN | 1 | 22 21 46 |
| E. | FEB. | | 24 6 52 | | FEB. | 1 | 21 12 34 |
| 18 15 56 | MAR. | | 25 16 23 | 18 9 22 | MAR. | 22 11 24 | |
| | APRIL | 1 | 24 2 16 | | Appre | 16 5 46 | |
| | MAY | 1 | | | MAY. | | |
| | Terve | 13 | | | June . | | 1 |
| | JULY | 1 | | | JULY. | | |
| | Aug. | | 1 | | Aug. | 1 | 1 |
| | SEPT. | 1 | | | SEPT. | | |
| | Oct. | . 18 13 22 | 1 | | 0 | 30 10 10 | 1 |
| | Nov. | | | | Oct. | 15 4 32 | |
| | 100. | (1 20 28 | 1 | | Nov. | | |
| | DEC. | . 16 14 50 | | | DEC. | 13 6 0 | |
| | | 1,23 22 00 | | | | | |
| | 1 | 1 | • | 14 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|---|---|---|--|---|---|
| A.D. 647. 6. March. d. h. m. 18 15 11 | APRIL MAY . JUNE . JULY . AUG SEPT O OCT Nov | 10 7 29 {11 20 13 26 14 35 | d. h. m. 11 23 0 10 17 24 12 9 24 26 9 18 10 22 21 10 8 28 8 16 29 7 23 31 6 6 40 4 14 55 19 22 43 4 1 7 2 13 49 2 5 6 | A.D. 650. c. March. d. h. m. 18 8 37 | JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OOT | d. h. m. \[\begin{array}{cccccccccccccccccccccccccccccccccccc | d. h. m. 8 3 26 23 17 4 6 16 29 8 6 32 6 21 31 6 18 2 5 4 33 4 19 19 18 22 34 8 8 58 1 21 25 1 8 58 30 20 2 29 6 56 |
| 648. F.E. 17 21 0 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG O SEPT OCT NOV DEC | $\left\{\begin{array}{c}1&8&33\\30&16&17\\29&5&1\\14&28&23\\29&17&45\\28&6&29\\27&19&18\\26&7&57\\25&20&41\\24&9&25\\8&8&47\\22&22&9\\22&10&58\\20&23&87\\20&12&21\end{array}\right.$ | 31 22 33 30 17 4 29 11 20 14 23 45 30 4 1 28 18 15 28 5 58 26 15 19 25 23 31 24 7 29 7 28 29 22 16 7 22 2 6 20 13 50 20 3 26 | 651. B. 18 14 26 | DEC O JAN FEB MAR . APRIL MAY . JUNE . O JULY . AUG SEPT . OCT NOV DEC O JAN. | 28 18 48 {12 18 5 27 7 27 25 20 11 27 8 55 25 21 39 25 10 23 23 23 7 { 8 17 29 23 11 51 22 0 35 20 13 19 20 2 8 18 14 47 18 3 31 { 1 21 54 16 16 16 | 28 17 46 12 20 23 27 4 36 25 15 34 27 3 4 25 15 34 25 5 21 28 20 18 8 15 1 28 11 56 22 3 32 20 18 32 20 18 32 20 8 34 18 21 32 18 9 26 1 19 39 16 20 20 |
| 649. v. 18 2 49 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 10 8 26 | 18 18 46 17 11 20 19 4 22 17 20 56 17 12 8 16 1 28 15 12 53 18 22 57 12 8 25 11 18 1 10 4 16 9 15 23 | A.g. 17 20 15 | FEB. MAR. APRIL MAY JUNE O JULY AUG. SEPT. OCT. NOV. DEC. | 15 17 44 14 6 28 18 19 12 12 7 56 27 2 18 11 20 40 10 9 24 8 22 8 | 3 27 7 49 11 12 35 10 4 12 3 8 21 5 2 8 14 17 3 7 6 49 |

| | | | EKUBADIM | | | | |
|----------------------------|--------|------------------------------------|-----------------------------|----------------------------|------------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 653. | | d. h. m. | d. h. m. | A.D. 656. | | d. h. m. | d. h. m. |
| F. | JAN | 5 1 4 | 5 11 8 | с.в. | JAN | 2 16 14 | 2 17 15 |
| March. | FEB | 3 13 48 | 3 22 25 | March. | FEB | 1 4 58 | 1 12 16 |
| 18 2 4 | MAR. | 5 2 33 | 5 7 58 | d. h. m. | 3.5 | (1 17 43 | 2 5 30 |
| 10 - 1 | APRIL | 3 15 17 | 3 16 15 | 17 19 30 | Mar | 31 6 27 | 31 19 56 |
| | MAY. | 3 4 1 | 3 0 2 | | APRIL | 29 19 11 | 30 7 22 |
| | June . | 1 16 45 | (1 8 18 | | MAY . | 29 7 55 | 29 16 20 |
| 1 | OUME. | (1 5 29 | (30 18 6 | | JUNE . | 27 20 39 | 27 23 48 |
| | JULY. | 30 18 13 | 30 6 17 | | JULY. | 27 9 23 | 27 6 51 |
| | Aug | 29 6 57 | 28 21 10 | | Aug. | 25 22 7 | 25 14 35 |
| | | 27 19 41 | 27 14 24 | | SEPT. | 24 10 51 | 23 23 51 |
| | SEPT | 27 8 25 | 27 8 59 | | Ocr. | 23 23 35 | 23 11 20 |
| | Oct | (11 2 47 | 10 20 0 | | Nov. | 22 12 19 | 22 1 22 |
| | 0 | 25 21 9 | 26 3 30 | | DEC. | 22 1 3 | 21 17 43 |
| | Nov. | 1 | | | DEC | 22 1 0 | 21 1, 10 |
| | DEC | 25 9 58 | 25 20 37 | 657. | JAN | 20 13 47 | 20 11 41 |
| 054 | Т | 23 22 37 | 24 11 20 | A. | FEB. | 19 2 31 | 19 6 2 |
| 654. E. | JAN | | 22 23 24 | | | 5 20 53 | 5 28 29 |
| 1 | FEB. | 22 11 21 | | 18 1 19 | 70 | 20 15 15 | 20 23 29 |
| 18 7 53 | MAR. | 24 0 5 | | 18 1 19 | MAR. | 19 8 59 | 19 14 56 |
| | APRIL | 22 12 49 | 22 16 50 | | APRIL | 18 16 43 | 19 3 51 |
| | 0 | 7 7 11 | 7 10 38 | | MAY . | | 17 14 23 |
| | MAY. | 22 1 33 | 21 23 46 | | JUNE. | | 16 23 14 |
| | JUNE. | 20 14 17 | 20 6 58 | | JULY . | 16 18 11 | 15 7 28 |
| 1 | July. | 20 3 1 | 19 15 18 | | Aug. | 15 6 55 | 29 18 26 |
| | Aug | 18 15 45 | 18 2 1 | | 0 | 30 1 17 | |
| ļ | SEPT | 17 4 29 | 16 15 43 | | SEPT | 13 19 39 | 13 15 47 |
| 1 | Oct | $\int 16 \ 17 \ 13$ | 16 8 23 | | Oct | 13 8 23 | 13 1 11 |
| | 0 | ₹31 11 35 | 31 11 49 | | Nov. | 11 21 7 | 11 12 6 |
| | Nov | 15 5 57 | 15 3 14 | li . | DEC | 11 9 51 | 11 0 44 |
| 1 | DEC | 14 18 41 | 14 22 46 | 650 | Tanz | 9 22 36 | 9 15 6 |
| 0.55 | T | 13 7 25 | 13 17 19 | 658. G. | JAN FEB | (8 11 20 | 8 6 51 |
| 655. | JAN. | 13 7 25 11 20 9 | 12 9 31 | | 0 | 23 5 42 | 23 15 43 |
| | FEB. | | 13 22 42 | 18 7 8 | MAR | 10 0 4 | 9 23 29 |
| 18 13 42 | MAR. | 13 8 53 | 12 8 57 | 18 7 8 | APRIL | 8 12 48 | 8 16 11 |
| | APRIL | 11 21 37 | | | | 8 1 32 | 8 8 5 |
| 1 | 0 | (26 15 59 | 26 11 40 | | MAY . | 6 14 16 | 6 22 28 |
| | MAY. | 11 10 21 | 11 16 59 | | JUNE. | 6 3 0 | 6 10 58 |
| | JUNE. | 9 23 5 | 9 23 48 | | JULY . | | 4 21 46 |
| | JULY. | 9 11 49 | 9 6 31 |]] | Aug | 4 15 44 | 18 20 59 |
| | Aug | 8 0 33 | 7 14 14 | 1 | 0 | 19 10 6 | |
| | SEPT | 6 13 17 | 5 23 57 | | SEPT | 3 4 28 | 8 7 41 |
| 1 | Oct | 6 2 1 | 5 12 25 | li | Oct | 2 17 12 | 2 17 22 |
| 1 | _ 0 | 20 20 23 | | | Nov | $\int_{0.01040}^{1556}$ | |
| | Nov. | | 4 3 53 | | | 30 18 40 | |
| | DEC | 4 3 29 | 3 21 53 | | DEC | 30 7 24 | 30 1 41 |
| \ | | 1 | | H | Į. | 4 | |

| 1 | Î | 1 | | | | | |
|--------------------------------|---|--|--|------------------------------|---|---|--|
| Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
| A.D. 659. F. | Jan | d. h. m. 28 20 8 (12 14 30 | d. h. m. 28 14 2 18 4 9 | A.D. 662. B. March. | Jan | d. h. m. 25 11 18 | d. h. m. 25 21 20 |
| March. d. h. m. 18 12 57 | FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT | 27 · 8 52 28 21 87 27 10 21 26 23 5 25 11 49 25 0 83 8 18 55 28 18 17 22 2 1 | 27 3 16 28 17 31 27 8 36 27 0 4 25 15 18 25 5 44 8 6 46 23 19 2 22 7 17 | d. h. m. 18 6 23 | FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT | 24 0 2 25 12 46 24 1 30 23 14 14 { 7 8 36 22 2 58 21 15 42 20 4 26 18 17 10 18 5 54 | 24 7 83 25 16 12 28 28 56 28 7 41 7 18 8 21 16 29 21 3 21 19 16 55 18 9 11 18 8 25 |
| | Oct Nov Dec | 21 14 45 20 3 29 19 16 13 | 21 18 48 20 5 56 19 16 51 | | Nov O Dec | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 16 22 19 1 6 7 16 16 25 |
| 660. E.D. 17 18 46 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG . SEPT OCT Nov | 10 10 49 9 28 83 8 12 17 | 18 8 34 16 14 18 17 1 6 15 12 46 15 1 40 18 15 56 18 7 21 11 28 13 10 14 51 10 5 42 8 19 28 8 8 3 22 14 14 | 663. A. 18 12 12 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 14 20 7 18 8 51 14 21 35 13 10 19 12 28 3 11 11 47 11 0 81 9 13 15 8 1 59 7 14 48 6 3 27 5 16 11 | 15 8 29 18 21 51 15 8 30 13 16 59 18 0 7 11 6 56 10 14 32 9 0 1 7 12 14 7 3 34 5 21 33 5 17 0 |
| 661. c. 18 0 85 | JAN. FEB. MAR. APRIL MAY. JUNE O JULY AUG. SEPT. OCT. NOV. O DEC. | 5 8 58 4 16 42 8 5 26 17 23 48 2 18 10 1 6 54 30 19 38 29 8 22 28 21 6 | 80 16 3 29 9 27 29 2 42 27 18 48 2 11 18 36 | | JAN FEB MAR APRIL O MAY . JUNE JULY AUG. SEPT. O OCT. NOV. DEC. | 29 9 20 28 22 4 27 10 48 25 23 32 (10 17 54 25 12 10 | 16 8 7 1 16 57 31 0 13 29 6 53 28 14 1 3 26 22 42 2 25 9 49 4 10 23 57 6 24 23 51 0 23 16 43 |

| O | 38 2 0 6 22 0 6 7 50 0 34 0 18 2 2 6 24 0 46 | 19 4 18 18 17 16 | 1 0 13 | 2 11 34 59 24 |
|---|---|---------------------------------|-------------------------|---------------------------|
| E. March. d. h. m. 17 23 50 MAR 22 2 28 22 6 46 FEB 20 15 12 21 0 58 MAR 22 3 56 22 16 46 O | 2 0 3 22 0 6 7 50 0 34 0 18 2 2 3 24 0 46 | 4 18 18 17 16 15 | 1 0 13 4 19 | 11 34 59 24 |
| March A. m. Feb. 20 15 12 21 0 58 March A. m. 17 28 50 Mar. 22 3 56 22 16 46 A. m. 17 17 16 Mar. Mar. 20 5 24 20 15 48 June 18 18 8 18 28 50 July 18 6 52 18 7 5 Aug. 16 19 36 16 14 29 Sept. (15 8 20 14 23 3 30 2 42 30 6 17 Oct. 14 21 4 14 9 29 Nov. 13 9 48 12 22 17 Dec. 12 22 32 12 13 27 Dec. 11 11 17 11 6 34 D. Feb. 10 0 1 10 0 41 18 5 39 Mar. (11 12 45 11 18 33 Oct. 10 10 10 10 10 10 10 10 10 10 10 10 10 | 3 22 3 6 7 50 34 3 18 2 2 3 24 3 46 | 18 18 17 16 15 | 0 13 4 19 | 34 59 24 |
| Mar. 22 3 56 22 16 46 d. h. ml. 17 17 16 d. h. ml. 17 17 16 d. h. ml. 17 17 16 d. h. ml. 17 17 16 d. h. ml. 18 18 18 18 18 18 18 1 | 6 7 50 34 18 2 2 6 24 16 46 | 18 17 16 15 | 13 4 19 | 59 24 |
| O APRIL 5 22 18 5 16 55 17 17 16 MAR. 18 18 18 20 16 40 21 5 37 MAY 20 5 24 20 15 48 June 18 18 8 18 23 50 July 18 6 52 18 7 5 Aug. 16 19 36 16 14 29 Sept. (15 8 20 14 23 3 30 2 42 30 6 17 Oct. 14 21 4 14 9 29 Nov. 13 9 48 12 22 17 Dec. 12 22 32 12 13 27 Dec. 12 22 32 12 13 27 Ge. | 7 50 34 18 2 2 6 24 1 46 | 17 16 15 | 4 19 | 24 |
| APRIL 20 16 40 21 5 37 MAY . 16 20 | 34 18 2 2 3 24 3 46 | 16 15 | 19 | |
| June . 18 18 8 18 23 50 July . 18 6 52 18 7 5 Aug 16 19 36 16 14 29 Sept {15 8 20 14 23 3} Otto . 14 21 4 14 9 29 Nov 13 9 48 12 22 17 Dec 12 22 32 12 13 27 666. D. Feb 10 0 1 10 0 41 18 5 39 Mar {11 12 45 11 18 33} Otto . 10 10 10 10 10 10 10 10 10 10 10 10 10 | 18 2 2 6 24 0 46 | 15 | | 34 |
| July . 18 6 52 18 7 5 Aug 16 19 36 16 14 29 Sept {15 8 20 14 23 8} O {30 2 42 30 6 17} Oct 14 21 4 14 9 29 Nov 13 9 48 12 22 17 Dec 12 22 32 12 13 27 666. D. Feb 10 0 1 10 0 41 18 5 39 Mar {11 12 45 11 18 33} O {26 7 7 26 7 46} 17 28 5 Mar 8 3 April 6 1 | 2 2 6 24 0 46 | | 10 | |
| Aug. 16 19 36 16 14 29 Sept. 15 8 20 14 23 3 O 30 2 42 30 6 17 Oct. 14 21 4 14 9 29 Nov. 13 9 48 12 22 17 Dec. 12 22 32 12 13 27 666. D. Feb. 10 0 1 10 0 41 18 5 39 Mar. 26 7 7 26 7 76 10 10 10 10 10 10 10 10 10 10 10 10 10 1 | 3 24 3 46 | 15 | | 59 |
| Sept. \$\ \begin{array}{c c c c c c c c c c c c c c c c c c c | 46 | | 1 | 59 |
| OCT. 14 21 4 14 9 29 Nov. 13 9 48 12 22 17 DEC. 12 22 32 12 13 27 666. D. FEB. 10 0 1 10 0 41 18 5 39 MAR. 611 12 45 11 18 33 O 26 7 7 7 26 7 7 7 26 7 7 7 26 7 7 7 26 7 7 7 26 7 7 7 7 | | 29 | 6 | 4 |
| OCT. 14 21 4 14 9 29 Nov. 13 9 48 12 22 17 DEC. 12 22 32 12 13 27 666. D. FEB. 10 0 1 10 0 41 18 5 39 MAR. 611 12 45 11 18 33 O 26 7 7 26 7 7 26 7 46 OCT. 11 11 Nov. 10 0 DEC. 9 13 669. G. G. FEB. 61 MAR. 83 APRIL 61 | | 13 | 16 | 5 |
| Nov 13 9 48 12 22 17 DEC 12 22 32 12 13 27 666. D. Feb 10 0 1 10 0 41 18 5 39 Mar {11 12 45 11 18 33 0 26 7 7 26 7 7 26 7 46 10 10 7 46 10 10 10 10 10 10 10 10 10 10 10 10 10 | 30 | 12 | 5 | 8 |
| DEC 12 22 32 12 13 27 666. Jan 11 11 17 11 6 34 DEC 9 18 669. Jan 68 DEC 9 18 669. Jan 68 22 2 Feb 10 0 1 10 0 41 18 5 39 Mar 61 12 45 11 18 33 O 26 7 7 26 7 76 DEC 9 18 APRIL 6 19 | 14 | 1 | 17 | |
| 666. JAN 11 11 17 11 6 34 G. O \{22 2 2 18 5 39 MAR \{11 12 45 11 18 33 \\ \circ \{26 7 7 \{26 7 7 \}26 7 7 \}26 7 7 \\ \frac{7}{10 10 10 10 10 10 10 10 10 10 10 10 10 1 | 58 | 10 | | 47 |
| 666. JAN 11 11 17 11 6 34 G. O \{22 2 18 5 39 MAR \{11 12 45 11 18 33 \\ \cdot \} \\ \frac{17 23 5}{17 23 5} \\ \frac{17 23 5}{17 23 5} \\ 17 21 10 10 10 10 10 10 10 10 10 10 10 10 10 | 3 42 | 9 | 15 | 54 |
| D. FEB 10 0 1 10 0 41 FEB 6 11 18 33 | 2 27 | 8 | 2 | 4 0 |
| 18 5 39 Mar (11 12 45 11 18 33 17 23 5 Mar 8 3 APRIL 6 1 | 3 49 | 23 | 4 | 17 |
| O 26 7 7 26 7 46 APRIL 6 1 | 5 11 | 6 | 13 | 9 |
| 10 1 00 10 10 10 | 3 55 | 7 | 23 | 86 |
| April 10 1 29 10 10 59 Mr e | 3 39 | 6 | 10 | 31 |
| MAX. U | 5 23 | 5 | 22 | 80 |
| MAY . 9 14 13 10 1 10 JUNE . 4 1 | 3 7 | 4 | 11 | |
| June. 8 2 57 8 12 53 July. 6 4 | 6 51 | | | 47 |
| | 1 13 | | 22 | |
| 0 14 477 0 4 47 90 1 | 9 85 | _ | 18 | |
| SEPT. \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | 8 19 | 1 | 10 | 42 |
| (30 2 | | 1) + | | 17 |
| 37 0 40 07 0 40 40 | 9 47 | 130 | | |
| 1007.01 100.05 | | 29 | | 17 |
| $D_{EC.}$. $\begin{vmatrix} 2 & 7 & 21 & 1 & 22 & 35 \\ 31 & 20 & 5 & 31 & 11 & 58 \end{vmatrix}$ $D_{EC.}$. $\begin{vmatrix} 28 & 1 & 1 & 28 \\ 28 & 1 & 1 & 1 & 58 \end{vmatrix}$ | 1 15 | 28 | 18 | 20 |
| | 5 38 | | | 35 |
| 207 Tay 20 8 49 20 2 49 | 0 0 | 27 | 5 | 6 |
| 667. JAN. 30 8 49 30 2 49 F. Feb. 25 1 | 2 44 | | | |
| 19 11 99 Map 90 10 18 90 11 99 18 4 94 MAR 27 | 1 28 | 1 | 23 | 85 |
| Appril 98 99 9 90 9 97 APRIL 20 1 | 4 12 | 25 | | 27 |
| MAY 28 11 46 28 18 45 MAY . 20 | 2 56 | | 18 | |
| Tune 27 0 30 27 8 15 June . 23 1 | | 28 | | |
| True 26 18 14 26 20 5 | | | 15 | |
| Arra 25 1 58 25 6 40 | 4 24 | | 19 | |
| SEPT. 23 14 42 23 16 39 AUG. 21 1 | | | 11 | - |
| Oct 98 8 96 98 9 41 SEPT 20 | 5 52 | 20 | | 28 |
| Nov. 21 16 10 21 18 10 Oct 19 1 | | | 22 | |
| Drg 21 4 54 21 0 17 | 7 20 | | 15 | 6 |
| DEC 17 2 | 0 4 | 18 | | 30 |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------------------------|--------|-----------------------------------|-----------------------------------|----------------------------|--------|------------------------------|----------------|
| A.D. 671. | | d. h. m. | d. h. m. | A.D. 674. | | d. h. m. | d. h. m. |
| E. Manah | JAN | 16 8 48 | 16 19 47 | Α. | JAN | 12 23 58 | 13 1 6 |
| March. d. h. m. | FEB | 14 21 32 | 15 6 54 | March. $d. h. m.$ | FEB | 11 12 42 | 11 19 53 |
| 18 10 48 | MAR. | 16 10 16 | 16 16 7 | 18 4 9 | MAR. | 13 1 26 | 13 12 54 |
| | APRIL | 14 23 0 | 15 0 0 | | APRIL | 11 14 10 | 12 3 10 |
| | MAY . | 14 11 44 | 14 7 27 | | MAY . | 11 2 54 | 11 14 34 |
| | JUNE . | 13 0 28 | 12 15 29 | | June . | 9 15 38 | 9 23 36 |
| | JULY. | 12 13 12 | 12 1 10 | | JULY. | 9 4 22 | 9 7 14 |
| | Aug | 11 1 56 | 10 13 19 | | Aug. | 7 17 6 | 7 14 35 |
| | SEPT | 9 14 40 | 9 4 22 | | SEPT. | 6 5 50 | 5 22 37 |
| | Oct | 9 3 24 | 8 21 54 | | Ост. | 5 18 34 | 5 8 11 |
| | Nov | 7 16 8 | 7 16 48 | i | Nov. | 4 7 18 | 3 19 50 |
| | 0 | 22 10 30 | 22 4 52 | ļ | DEC. | 3 20 2 | 3 9 49 |
| | DEC | 7 4 52 | 7 11 38 | | 220. | | |
| | 1 | | | 675. | JAN | § 2 8 47 | 2 1 55 |
| 672. | JAN | 5 17 37 | 6 4 54 | G. | JAM | 31 21 31 | 31 19 27 |
| D.C. | FEB | 4 6 21 | 4 19 38 | | FEB | ••• | |
| 17 16 82 | MAR. | 4 19 5 | 5 7 31 | | | 2 10 15 | 2 13 22 |
| | APRIL | 3 7 49 | 3 16 52 | 18 9 58 | MAR.O | 17 4 37 | 17 7 37 |
| | MAY . | 2 20 33 | 3 0 27 | | | 31 22 59 | (1 6 30 |
| | 0 | 17 14 55 | 17 17 8 | | APRIL | 30 11 43 | 30 21 48 |
| | JUNE . | [1 9 17 | 1 7 13 | | MAY . | 30 0 27 | 30 10 45 |
| | 00 | 130 22 1 | 30 14 16 | , | JUNE . | 28 13 11 | 28 21 30 |
| | JULY. | 80 10 45 | 29 22 42 | | JULY . | 28 1 55 | 28 6 42 |
| | Aug | 28 23 29 | 28 9 31 | }} | Aug | 26 14 39 | 26 15 16 |
| | SEPT | 27 12 13 | 26 23 23 | | 0 | [10 9 1 | 10 1 36 |
| | Oct | 27 0 57 | 26 16 12 | | SEPT | 25 3 23 | 25 0 5 |
| | 0 | [10 19 19 | 10 20 39 | | Oct | 24 16 7 | 24 9 51 |
| i | Nov | 25 13 41 | . 25 11 10 | | Nov | 23 4 51 | 22 20 54 |
| | DEC | 25 2 25 | 25 6 45 | | DEC | 22 17 35 | 22 9 25 |
| 673. | JAN | 28 15 10 | 24 1 17 | 676. | JAN. | 21 6 19 | 20 23 23 |
| В. | FEB | 22 8 54 | 22 17 23 | F.E. | FEB | 19 19 3 | 19 14 35 |
| 17 22 21 | | 28 16 38 | 24 6 24 | | | 5 13 25 | 5 23 55 |
| | APRIL | 22 5 22 | 22 16 31 | 17 15 47 | 3.5 | . 120 7 47 | 20 6 40 |
| | 0 | (6 28 44 | 6 18 27 | | APRIL | 18 20 31 | 18 22 55 |
| | MAY . | 121 18 | 3 22 0 28 | | MAY | . 18 9 15 | 18 14 36 |
| | JUNE . | 20 6 50 | 20 7 17 | | JUNE | . 16 21 59 | 17 5 2 |
| | July . | | | | July | | 16 17 51 |
| | Aug. | | 1 | | Aug. | . (14 23 27 | 15 5 14 |
| | SEPT. | | 1 | | 0 | 29 17 49 | 29 4 20 |
| | Oct. | . (10 9 4 | i | | SEPT. | . 13 12 11 | 13 15 41 |
| | 0 | 14 | 8 31 10 35 | - 11 | Oct. | . 13 0 55 | 13 1 53 |
| | Nov. | . 14 22 30 | | 11 | | . 11 13 39 | 11 12 17 |
| | DEC. | 14 11 1 | | - 11 | DEC. | . 11 2 25 | 3 10 23 7 |
| | | - | | | | | <u> </u> |

| Mean Vernal | Month | Mean New Meson, | True New More | Monn Vernal | Martish. | Mes is Nose Trino No Missis Massa | 1 |
|------------------------|-----------|------------------------|---------------|------------------|------------|--------------------------------------|---------|
| Equinos, | | (c) Fall Ect) | ') Full Rol. | Majminann, | | () Full Boliss Fall & | ei.) |
| A.D. 677. | in the mi | d. h. m. | d. h. m. | A.D. 680. | | d. h m _ d, h, | Smp |
| D. | JAN | 9 15 7 | 9 10 27 | A.Q. | Jax | 7 6 17 7 17 3 | 11 |
| 1 | Fan. | (H B 51 | 7 22 10 | March. | Fam. | 5 49 1 6 5 2 | .1 |
| March. | 4.3 | 22 22 18 | 21 12 11 | 17 15 2 | Man. | 6 7 46 6 15 4 | 10 |
| d. h, m. l 17 21 35 | Man | 10 10 16i | 0 11 0 | | Armii. | 4 20 30 6 0 | 44 |
| 11 21 171 | | H 6 20 | н о 87 | į | MAY . | | 11 |
| | Arna | 7 14 4 | 7 15 14 | | Jins . | 1 2 21 tas 2 15 | 13 |
| | May . | | 0 0 25 | | Jens, | 117 10 20 18 07 | - 1 |
| | June | 11 11 48 | 1 | | C | | - 1 |
| | Jur | 6 10 82 | 6 21 80 | | Jeny . | | - 1 |
| | Ara. | 1 4 8 10 | 4 12 184 | | | | Brig. |
| | 4 1 | fin 8 me | IH 14 321 | | Ava | 10 13 10 10 0 | tá |
| | Harr. | 7 21 0 | H 7 H) | | Harr. | 20 0 hd 25 10 i | 1 |
| 1 | Oct | 1 2 11 44 | 2 15 22 | | Oct | 291 13 BH 271 11 | 10 |
| | 5,75.11 | 181 22 24 | (1 8 25 | | New | 27 2 22 27 0 | 139 |
| | Nov | 20 11 12 | (190) 14 61 | | (3 | 111 20 44 11 15 | 1 |
| | Dur | 20 20 66 | 80 1 48 | | DEC | 126 18 6 27 0 1 | 246 |
| | | | | | | | |
| 678. | JAN | 98 12 41 | 2H 19 17 | | | | |
| C. | Fun | 27 1 25 | 26 22 27 | 681. | JAN | 25 3 51 25 16 | |
| 18 8 25 | Man. | 29 14 9 | 28 8 47 | ν, | Fun | 28 10 86 24 6 1 | |
| | Arnit | 27 9 58 | 20 19 54 | 17 20 51 | Man | 25 5 19 25 16 | 25 |
| | MAY . | 26 15 87 | 26 8 23 | | APRIL | 28 IN 8 24 O | 10 |
| | Joss . | 25 4 21 | 94 99 97 | | MAY . | 28 0 47 VA 7 | 87 |
| | July . | 24 17 5 | 24 18 55 | | Jone . | 21 19 81 21 14 | 2.1 |
| | Aug. | 20 5 40 | 28 6 10 | | JULY . | 91 8 15 20 21 3 | *** |
| | BRPT. | 21 18 83 | 21 22 22 | | Ava | 19 90 to 19 7 a | 12 |
| | Oct. | 21 7 17 | 21 18 49 | | Bert. | 18 0 40 17 19 1 | , t |
| | Nov. | 19 20 1 | 20 4 4 | | O. 7 | 17 22 27 17 11 3 | |
| | | 1 | 19 10 54 | | Nov. | 16 11 11 16 5 1 | 210 |
| | Dac. | 19 8 45 | 10 10 04 | | Dac. | 15 28 55 16 0 5 | |
| \ | 0 | (8 8 7 | 2 22 18 | | | | |
| 679. | JAN. | 1 17 21 20 | 18 4 15 | | | A COLOR | |
| 3. | Fan. | 16 10 18 | 16 14 16 | 682. | JAN | 14 12 189 14 20 1 | 13 |
| | Man. | 17 22 57 | 17 28 18 | * . | Fan | 18 1 321 10 10 1 | MG |
| 18 9 14 | Arnii. | 16 11 41 | 10 7 40 | 18 % 40 | MAN. | 14 14 7 15 4 | f) |
| | MAY | 16 0 25 | 15 16 48 | | Arnit | 18 2 51 18 15 1 | 1 |
| | | | 14 8 8 | | MAY . | 12 15 85 18 0 1 | 24 |
| | Junk. | ∃(14 18 0 ∃129 7 81 | 20 14 45 | | Junn . | 11 4 10 11 7 | 100 |
| | 7 | 1 * ** | | | July . | 10 17 8 10 14 | 100 |
| | 1 | 14 1 68 | 18 15 81 | (2) | Aca. | 1 | 4å1 |
| | Ara | | 12 6 21 | 12 | Harr. | 1 | |
| | 1 | 11 8 21 | 4 | ' 3 | Oct. | 7 7 15 6 17 | |
| | Oct | | 3 | 12 | 0 | 22 18: 23 n | |
| | Nov. | | 9 10 40 | 4 | 9 | 7 | 4 |
| 1 | Day. | , | 1 | *8 | Line. | 1 | tan |
| | 0 | (28 11 55 | 23 B H | 4. 2 | \$ F \$400 | The Land 19 24 1 | 1.50° F |
| 1 | | 1 | 1 | | 1 | ž į | á. |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| A.D. 683. | | d. h. m. | d. h. m. | A.D. 686. | | d. h. m. | d. h. m. |
| D. | JAN | 3 21 28 | 3 19 28 | G. | JAN | 30 1 22 | 29 20 34 |
| March. $d. h. m.$ | FEB | 2 10 12 | 2 14 28 | Nf 1 | 0 | (13 19 44 | 14 9 11 |
| 18 8 29 | MAR | 3 22 56 | 4 8 23 | March. $d. h. m.$ | FEB | 28 14 6 | 28 8 32 |
| | APRIL | (2 11 40 | 3 0 0 | 18 1 55 | MAR | 30 2 50 | 29 21 20 |
| | 0 | 17 6 2 | 17 0 26 | | APRIL | 28 15 34 | 28 11 12 |
| | 3.5 | (2 0 24 | 2 12 46 | | MAY . | 28 4 18 | 28 2 4 |
| | MAY. | (31 13 8 | 31 22 55 | | JUNE . | 26 17 2 | 26 17 25 |
| | June. | 80 1 52 | 30 7 13 | | JULY. | 26 5 46 | 26 8 42 |
| | JULY. | 29 14 36 | 29 14 43 | | 0 | (10 0 8 | 9 13 40 |
| | Aug | 28 3 20 | 27 22 27 | | Aug | 24 18 30 | 24 23 20 |
| | SEPT | 26 16 4 | 26 7 20 | | SEPT | 23 7 14 | 23 12 59 |
| | 0 | (11 10 26 | 11 14 0 | | Oct | 22 19 58 | 23 1 42 |
| | Oct | 26 4 48 | 25 18 0 | | Nov | 21 8 42 | 21 13 37 |
| | Nov. | 24 17 32 | 24 6 49 | , | DEC | 20 21 26 | 21 0 53 |
| | DEC | 24 6 16 | 23 21 48 | | 2201 1 | 20 22 20 | |
| | | | | 687. | JAN | 19 10 11 | 19 11 30 |
| 684. | JAN | 22 19 1 | 22 14 32 | F. | 0 | 3 4 33 | 3 12 2 |
| C.B. | FEB | 21 7 45 | 21 8 11 | | FEB | 17 22 55 | 17 21 35 |
| 17 14 18 | MAR. | 21 20 29 | 22 1 38 | 18 7 44 | MAR | 19 11 39 | 19 7 31 |
| | 0 | (5 14 51 | 5 15 39 | | APRIL | 18 0 28 | 17 17 53 |
| | APRIL | 20 9 13 | 20 17 49 | | MAY. | 17 13 7 | 17 5 23 |
| | MAY . | 19 21 57 | 20 7 57 | | JUNE. | 16 1 51 | 15 18 30 |
| | JUNE. | 18 10 41 | 18 19 51 | | JULY. | ∫15 14 35 | 15 9 20 |
| | July . | 17 23 25 | 18 5 54 | | 0 | 130 8 57 | 30 6 15 |
| | Aug | 16 12 9 | 16 14 52 | | Aug | 14 3 19 | 14 1 25 |
| | SEPT. | (15 0 58 | 14 28 42 | | SEPT | 12 16 3 | 12 17 58 |
| | 0 | 29 19 15 | 29 14 11 | | Oct | 12 4 47 | 12 10 10 |
| | Our | 14 18 87 | 14 9 8 | | Nov | 10 17 31 | 11 1 19 |
| | Nov. | 18 2 21 | 12 19 87 | | DEC | 10 6 15 | 10 15 3 |
| | DEC | 12 15 5 | 12 7 24 | 688. | JAN | (8 18 59 | 9 3 10 |
| | | | | E.D. | 0 | 23 13 21 | 23 11 25 |
| 685. | JAN | 11 8 49 | 10 20 28 | | FEB | 7 7 43 | 7 13 43 |
| A. | FEB | 9 16 88 | 9 10 49 | 17 13 83 | MAR. | 7 20 27 | 7 22 57 |
| 17 20 7 | MAR | 11 5 17 | 11 2 14 | | APRIL | 6 9 11 | 6 7 24 |
| | APRIL | 9 18 1 | 9 18 14 | | MAY . | 5 21 55 | 5 15 49 |
| | MAY . | 9 6 45 | 9 10 10 | | JUNE . | 4 10 39 | 4 1 12 |
| | JUNE . | 7 19 29 | 8 1 17 | | JULY. | (3 23 23 | 3 12 26 |
| | JULY . | 7 8 18 | - 7 15 3 | | 0 | 18 17 45 | 18 22 37 |
| | Aug | 5 20 57 | 6 3 20 | | Aug | 2 12 7 | (2 2 5 |
| | SEPT | 4 9 41 | 4 14 27 | | | (1 0 51 | 31 18 5 |
| l | Ocr | 8 22 25 | 4 0 58 | | SEPT | 80 18 35 | 30 11 45 |
| | Nov | 2 11 9 | 2 11 25 | | Oct | 30 2 19 | 30 5 56 |
| | DEC | (1 28 58 | 1 22 7 | | Nov. | 28 15 3 | 28 23 22 |
| | DEC | 81 12 37 | 81 9 10 | | DEC. | 28 3 47 | 28 15 1 |
| | | | | | | | 11 |

| pays (1991) 1 1 | 1904 N. S of P. & S. | and a market Apropriation of | Mandaum vs - II. L Mar | | | | 100 |
|----------------------------|----------------------|------------------------------------|-------------------------------------|---------------------------|----------|----------------|----------------|
| Mean Vernal Kquinox. | Month. | Mean New Moon, (C) Full K-L) | True New Moon. (c) Full Erl 1 | Mean Vernal Equipms | Month | Mean New Mores | Marin Marin |
| | and separations | | 1, | | | | |
| A.D. 689. | | d. h. m. | d, h. m. | A.D. 692. | | d. h. m. | d. A sa. |
| 15. | JAN | 26 16 32 | 27 4 20 | 84.37 | JAN | 24 7 42 | 24 9 54 |
| March. | Fan. | 25 5 16 | 25 15 14 | March. | Fan | 22 20 26 | 21 8 22 |
| d. h. m. | | 26 18 0 | 27 0 B | d. h. m. 17 12 4n | Man. | 28 9 10 | 21 21 H |
| 17 19 21 | MAR. | 25 6 44 | 25 7 42 | ** *** | Aran | 21 21 64 | |
| | Aran | | | | | | 22 10 17 |
| | May . | 74 10 5H | 24 14 58 | | Mar . | 21 10 35 | 21 21 42 |
| | JUNE, | 211 8 12 | 22 22 13 | | Jewn . | 10 20 22 | 31 6 57 |
| | Jun. | अध्यक्षा स्म | 22 H 19 | - | July . | 19 12 6 | 19 14 45 |
| | Ava | 21 9 40 | 湖 簿 珠 | | Attu. | 18 O 50 | 17 24 25 |
| | Barr. | 10 22 24 | 19 11 45 | | Mary. | 16 18 84 | 16 6 49 |
| | (ht | 19 11 H | 19 5 81 | | Oct | 16 2 16 | 15 16 41 |
| | Nov. | 17 28 64 | IH 0 42 | | Nov | 14 15 9 | 14 4 29 |
| | | (2 IH 14 | 2 18 40 | | Dac. | 14 8 46 | 18 16 19 |
| | O Thurs | 17 19 86 | 17 19 45 | | APPEND 1 | .4 6 40 | 848 619 614 |
| | Duc | 11 13 00 | Tt the detail | 800 | 7 | 12 16 80 | 10 10 1 |
| | | | 10 10 0 | 693. E. | Jan | | 12 10 4 |
| 890. | JAN | 16 1 20 | 16 18 6 | | Fan | 11 6 14 | 11 B H |
| 34. | Fun | 14 14 4 | 18 8 46 | 17 18 87 | MAR | [12 17 BM | 13 30 14 |
| 18 1 10 | MAR. | 16 9 48 | 16 15 28 | | O | 127 12 20 | 27 15 B4 |
| · | APRIL | 14 15 89 | 15 0 86 | | APRIL | 11 6 42 | 11 18 21 |
| | MAY . | (14 4 18 | 14 7 50 | | MAY . | 10 19 26 | 11 4 81 |
| | 0 | 128 22 88 | 28 28 86 | | Juns . | 9 8 10 | 9 17 25 |
| | Juma . | 19 17 0 | 19 14 89 | | July . | 8 90 54 | 9 4 87 |
| | Jory . | 12 5 44 | 11 21 42 | | Aug. | 7 9 88 | 7 14 14 |
| | | 10 18 28 | 10 6 12 | | - | | 1 |
| | Aug. | 1 | | | Burr | (P 30 33 | 5 23 16 |
| | Burr | 9 7 19 | 8 17 10 | | 0 | 120 16 44 | 20 H fv3 |
| | Oor | 8 19 56 | 8 7 10 | | Oct | 6 11 6 | b with |
| | Nov | £ 7 8 40 | 7 0 7 | | Nov. | 8 20 10 | 8 19 87 |
| | 0 | 153 8 3 | 22 5 88 | | Dac. | B 19 84 | 14 d 14 |
| | Dac. , | 6 21 24 | 6 19 8 | | | | |
| | | | | 694. | JAN | 1 2 1 10 | 1 14 6 |
| 691. | JAN | 6 10 9 | 5 14 49 | D. | JAN | 1 m 14 m | 81 7 86 |
| A. | Fun | 8 22 58 | 4 9 7 | | FER | | ** |
| 18 6 59 | Man. | 8 11 87 | 6 1 8 | , | | , 2 2 47 | 1 22 18 |
| | APRIL | 4 0 21 | 4 18 56 | 18 0 20 | Man. O | | 17 7 69 |
| | MAY . | 1 8 18 6 | 8 28 56 | | | 81 15 81 | 81 18 49 |
| 1 | 0 | 18 7 27 | 18 1 9 | | Arus. | 80 4 15 | |
| 1 | | 2 1 40 | 2 7 51 | 1 | | | |
| | Junn . | | | | MAY . | 20 10 50 | 20 21 7 |
| 1 | JULY . | 1 14 88 | 1 14 45 | | Junn . | 2FI 5 48 | 2H 11 41 |
| | | 81 8 17 | 80 21 44 | | July . | 97 18 97 | 3H 0 54 |
| | Ava | 29 16 1 | 29 5 51 | | Ave | 28 7 11 | 201 12 44 |
| | Bapt | 28 4 45 | 27 16 1 | | n | / 10 1 BB | 9 11 60 |
| | Oct | 97 17 29 | 27 4 47 | | Harr. | 184 19 86 | M VII to |
| 1 | 0 | (11 11 61 | 11 19 8 | | Oct | 94 8 80 | 24 10 81 |
| 1 | Nov | 26 6 18 | 1 | | | 22 21 23 | 21 21 18 |
| | Dac. | 25 18 57 | | | Dre. | : | |
| | | 20 01 | | | SAME, | AM 117 / | 22 8 6 |
| 1 | | 4 | | | , | 1 | |

| | | 1 | 11 | | | | |
|----------------------------|----------|-------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|----------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| A.D. 695. | | d. h. m. | d. h. m. | A.D. 698. | | d. h. m. | d. h. m. |
| c. | JAN | 20 22 52 | 20 19 9 | F. | 0 | (2 19 40 | 2 11 40 |
| March. | FEB | 19 11 36 | 19 6 33 | 3.63 | JAN | 17 14 2 | 18 2 14 |
| d. h. m. | 0 | 6 5 58 | 6 20 1 | March. $d. h. m.$ | FEB | 16 2 46 | 16 14 15 |
| 18 6 14 | MAR | 21 0 20 | 20 18 37 | 17 23 41 | MAR | 17 15 30 | 17 23 56 |
| | APRIL | 19 13 4 | 19 7 39 | | APRIL | 16 4 14 | 16 7 55 |
| | MAY . | 19 1 48 | 18 21 49 | ' | MAY . | 15 16 58 | 15 15 2 |
| | June . | 17 14 32 | 17 12 55 | | JUNE. | (14 5 42 | 13 22 19 |
| | July. | 17 3 16 | 17 4 25 | | 0 | 29 0 4 | 29 7 45 |
| | Aug | (15 16 0 | 15 19 39 | | JULY. | 13 18 26 | 13 6 51 |
| | 0 | 30 10 22 | 29 22 12 | | Aug | 12 7 10 | 11 17 42 |
| | SEPT | 14 4 44 | 14 10 6 | | SEPT. | 10 19 54 | 10 7 29 |
| | Oct | 13 17 28 | 13 23 34 | | Ocr. | 10 8 38 | 10 0 10 |
| | Nov. | 12 6 12 | 12 12 6 | | Nov. | 8 21 22 | 8 18 57 |
| | DEC. | 11 18 56 | 11 23 48 | | DEC | (810 6 | 8 14 22 |
| 1 | | | 11 10 10 | | 0 | 23 4 28 | 22 23 54 |
| 696. | T | 70 7 40 | 10 10 41 | | | (20 ± 20 | 22 20 OE |
| B.A. | JAN | 10 7 40 | 10 10 41 | 699. | JAN | 6 22 50 | 7 8 47 |
| | FEB | 8 20 24 | 8 20 52 | E. | FEB. | 5 11 34 | 6 0 51 |
| 17 12 8 | MAR | 9 9 8 | 9 6 35 | 18 5 30 | MAR. | 7 0 18 | 7 13 57 |
| | APRIL | 7 21 52 | 7 16 23 | | APRIL | 5 13 2 | 6 0 11 |
| | MAY . | 7 10 86 | 7 2 59 | | MAY . | 5 1 46 | 5 8 14 |
| | JUNE . | 5 23 20 | 5 15 4 | | JUNE . | (3 14 30 | 3 15 5 |
| | July. | 5 12 4 | 5 5 1 | | 0 | 18 8 52 | 18 10 31 |
| | Aug. | 4 0 48 | 3 20 36 | | JULY . | 3 3 14 | 2 21 46 |
| | SEPT. | 2 13 32 | 2 13 13 | | | (1 15 58 | 1 5 27 |
| | Oct | 2 2 16 | 2 5 58 | | Aug | 31 4 42 | 30 15 11 |
| | | (81 15 0 | 81 21 59 | İ | SEPT. | 29 17 26 | 29 3 43 |
| | Nov. | 80 8 44 | 30 12 41 | | Ocr. | 29 6 10 | 28 19 18 |
| | DEC | 29 16 28 | 30 1 41 | | Nov. | 27 18 54 | 27 13 26 |
| | | | | | DEC. | 27 7 38 | 27 8 56 |
| 697. | 0 | ∫18 10 51 | 13 6 20 | | | | |
| G. | JAN. | 128 513 | 28 12 57 | 700. | JAN | 25 20 23 | 26 4 3 |
| | FEB. | . 26 17 57 | 26 22 39 | D.C. | FEB | 24 9 7 | 24 21 17 |
| 17 17 52 | MAR. | | 28 7 13 | 17 11 19 | MAR | 24 21 51 | 25 11 38 |
| | APRIL | l l | 26 15 19 | | APRIL | 23 10 35 | 23 22 57 |
| | MAY | . 26 8 9 | 25 23 55 | 1 | MAY . | 22 23 19 | |
| | JUNE . | . 24 20 58 | 24 10 0 | | JUNE . | 21 12 3 | i |
| | 0 | 9 15 15 | 1 | | JULY. | 21 0 47 | |
| | Jura | . 124 9 87 | 28 22 28 | | Aug. | 19 13 31 | |
| | Aug. | . 22 22 21 | 22 13 19 | | SEPT. | 18 2 15 | 1 |
| | SEPT. | . 21 11 5 | 21 6 26 | | Ост. | 17 14 59 | į. |
| 1 | Oor. | . 20 23 49 | 21 0 44 | | 0 | f 1 9 2 | 1 |
| | Nov. | . 19 12 88 | ľ | | Nov. | 1. | _ |
| | DEC. | . 19 1 17 | 19 11 40 | | DEC. | . 15 16 27 | 7 15 9 2 |
| | | | | | | 1 | |
| 1 | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|--|-----------------------------------|----------------------------|--------|---|------------------------------------|
| A.D. 701. | | d. h. m. | d. h. m. | A.D. 704. | | d. h. m. | d. h. m. |
| В. | JAN | 14 5 12 | 14 3 22 | F.E. | JAN | 11 20 21 | 11 17 59 |
| d. h . m . | FEB. | 12 17 56 | 12 22 3 | | FEB | (10 9 5 | 10 5 0 |
| 17 17 7 | MAR | 14 6 40 | 14 15 39 | March. $d. h. m.$ | 0 | 25 3 27 | 25 17 0 |
| | APRIL | (12 19 24 | 13 7 5 | 17 10 34 | Mar | 10 21 49 | 10 16 23 |
| | 0 | 27 13 46 | 27 7 53 | | APRIL | 9 10 33 | 9 4 35 |
| | MAY . | 12 8 8 | 12 19 50 | | MAY . | 8 23 17 | 8 17 56 |
| | June . | 10 20 52 | 11 6 5 | | JUNE . | 7 12 1 | 7 8 30 |
| | JULY. | 10 9 36 | 10 14 36 | | JULY. | 7 0 45 | 6 23 55 |
| | Aug | 8 22 20 | 8 22 25 | | Aug | § 5 13 29 | 5 15 30 |
| | SEPT | 7 11 4 | 7 6 32 | | ~ 0 | (20 7 51 | 19 21 26 |
| | Oct | 6 23 48 | 6 15 47 | | SEPT | 4 2 13 | 4 6 39 |
| | O Nov | (21 18 10 | 21 21 49 | | Oct | 3 14 57 | 3 20 56 |
| | Nov | 5 12 32 | 5 2 39 4 15 27 | | Nov | 2 3 41 | 2 10 12 1 22 28 |
| | DEC | 5 1 16 | 4 15 27 | | DEC | $\begin{cases} 1 & 16 & 25 \\ 31 & 5 & 9 \end{cases}$ | 31 9 47 |
| 700 | T | | | | | (31 3 3 | 21 2 41 |
| 702. | JAN | 3 14 0 | 3 6 9 | 705. | JAN | 29 17 53 | 29 20 11 |
| 17 22 56 | FEB | 2 2 44 | 1 22 25 | D. | 0 | ∫13 12 15 | 13 19 36 |
| 17 22 90 | MAR. | 8 15 28 | 3 15 32 2 8 34 | | FEB | 28 6 38 | 28 5 54 |
| | APRIL O | $\begin{cases} 2 & 4 & 12 \\ 16 & 22 & 34 \end{cases}$ | 16 23 25 | 17 16 23 | MAR. | 29 19 22 | 29 15 19 |
| |) | (10 22 54 | 2 0 31 | | APRIL | 28 8 6 | 28 1 9 |
| | MAY. | 31 5 40 | 81 14 41 | | MAY . | 27 20 50 | 27 12 18 |
| | JUNE. | 29 18 24 | 30 2 49 | | JUNE . | 26 9 34 | 26 1 7 25 15 57 |
| | JULY. | 29 7 8 | 29 13 15 | | JULY. | 25 22 18 | 25 15 57 9 13 59 |
| | Avg | 27 19 52 | 27 22 42 | | Avg | 24 11 2 | 24 8 18 |
| | SEPT | 26 8 36 | 26 8 1 | | SEPT. | 22 23 46 | 23 1 21 |
| | 0 | (11 2 58 | 10 21 37 | | OCT. | 22 12 30 | 22 18 7 |
| | Oct | 25 21 20 | 25 17 49 | | Nov. | 21 1 14 | 21 9 46 |
| | Nov | 24 10 4 | 24 4 29 | | DEC | 20 13 58 | 20 23 46 |
| | DEC | 23 22 48 | 23 16 10 | 706. | JAN | 19 2 43 | 19 11 54 |
| | | | | c. | | (221 5 | 2 19 11 |
| 703. | JAN | 22 11 33 | 22 4 55 | | FEB | 17 15 27 | 17 22 18 |
| G. | FEB | 21 0 17 | 20 18 42 | 17 22 12 | MAR. | 19 4 11 | 19 7 5 |
| 18 4 45 | MAR. | 22 13 1 | 22 9 29 | | APRIL | 17 16 55 | 17 15 6 |
| | APRIL | 21 1 45 | 21 1 1 | | MAY . | 17 5 39 | 16 23 9 |
| | MAY . | 20 14 29 | 20 16 41 | | JUNE . | 15 18 23 | 15 8 15 |
| | JUNE. | 19 3 13 | 19 7 48 | | JULY . | (15 7 7 | 14 19 20 |
| | JULY. | 18 15 57 | 18 21 53 | | 0 | (30 1 29 | 30 6 7 |
| | Aug | 17 4 41 15 17 25 | 17 10 40 | | Aug | 13 19 51 | 13 9 2 |
| | OCT. | 15 17 25 | 15 22 23 15 9 27 | | SEPT | 12 8 35 | 12 1 15 |
| | Nov. | 13 18 53 | 13 20 17 | | Oct | 11 21 19 | 11 19 17 |
| | DEC. | 13 7 37 | 13 7 8 | | Nov | 10 10 3 | 10 13 54 |
| | | | | | DEC | 9 22 47 | 10 7 40 |
| 1 | <u> </u> | 1 | 1 | ll . | 1 | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|-------------------------------------|---|---|---|--|--|---|--|
| A.D. 707. B. March. d. h. n. 18 4 0 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT | d. h. m. 8 11 31 7 0 15 8 12 59 7 1 43 6 14 27 5 3 11 4 15 55 3 4 39 1 17 23 | d. h. m. 8 23 29 7 12 44 8 23 25 7 8 11 6 15 18 4 22 16 4 5 59 2 15 35 { 1 3 54 30 19 16 | A.D. 710. E. March. d. h. m. 17 21 27 | JAN FEB MAR APRIL MAY . O JUNE . | d. h. m. 5 2 41 3 15 25 5 4 9 3 16 58 { 3 5 87 { 17 28 59 1 18 21 { 1 7 5 30 19 49 | d. h. m. 4 22 4 8 16 33 5 10 41 4 3 11 3 17 15 17 16 8 2 4 44 1 14 7 30 22 19 |
| 708. a.g. | Oct Nov O DEC JAN FEB | 1 6 7 30 18 51 29 7 35 14 1 57 28 20 19 27 9 4 25 21 48 | 30 13 15 29 8 38 13 22 44 29 3 49 27 21 12 26 11 45 | 711. D. | Aug SEPT OCT Nov DEC JAN Feb | 29 8 33 27 21 17 27 10 1 25 22 45 25 11 29 24 0 14 22 12 58 | 29 6 28 27 15 9 27 1 18 25 13 9 25 2 49 23 18 11 22 10 42 |
| 17 9 49 | MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT NOV O DEC | 26 10 82 24 28 16 24 12 0 8 6 22 28 0 44 22 18 28 21 2 12 19 14 56 19 3 40 17 16 24 2 10 46 17 5 8 | 22 5 12 20 13 53 19 1 1 18 15 8 17 8 9 2 14 28 | 18 3 16 | MAR O APRIL MAY JUNE. JULY. AUG SEPT OCT NOV DEC. | 24 1 42 7 20 4 {22 14 26 22 8 10 20 15 54 20 4 38 18 17 22 17 6 6 16 18 50 15 7 34 14 20 18 | 24 |
| 709. F. 17 15 88 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG . SEPT OOT NOV O DEC. | 10 11 1 8 28 45 8 12 29 7 1 18 21 19 35 | 14 16 48 16 8 34 14 21 20 14 7 16 28 7 52 12 15 18 11 22 16 10 5 29 8 18 54 8 0 17 6 13 10 5 22 8 44 | | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT. NOV. DEC | $ \begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 10 20 39 10 12 8 9 3 35 8 18 21 7 8 0 5 20 30 7 19 19 31 5 8 6 8 3 19 15 |

| Serial Equinost Fall Ects Fall Ects Serial Equinost Fall Ects Fall Ects Serial Equinost Fall Ects Fall Ects Serial Equinost Serial Equinost Fall Ects Serial Equinost Seri | waterway - 1 com | nan ar san aran I | A CONTRACTOR OF THE PROPERTY O | namental sector section and section of the section | en reación e | guarian Take | ve ele v | 18 786 |
|--|------------------|----------------------|--|---|--|---------------|------------|----------------------------------|
| A.D. 713. A. JAM d. h. m. d. h. m. A.D. 718. A. JAM 117 51 1 16 50 718. B.D. C. 14 8 23 18 20 10 718. March. d. h. m. | Vorteni | Month. | Maserts, | Mistres | Vornal | Month. | Mount | True New Missin Full Ect.) |
| 713. A. Jan. (1 1 7 1 1 16 50 81 8 45 84 84 84 84 84 84 84 84 84 84 84 84 84 | | Foregree (| | | | 1 - 1100 - 01 | | |
| March. A | | | d. h. m. | d. h. m. | 718. | | d. h. m. | d. h. m. |
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| 18 0 17 | MAR. | 27 3 4 | 27 15 55 | 17 17 44 | MAR | 23 18 14 | 23 13 7 |
| ! | APRIL | 25 15 48 | 26 4 34 | | . 0 | 7 12 36 | 7 28 87 |
| | MAY . | 25 4 32 | 25 14 30 | | APRIL | (22 6 58 | 22 3 30 |
| | O | 8 22 54 | 8 14 33 | | MAY . | 21 19 42 | 21 18 38 |
| | JUNE . JULY . | 23 17 16 23 6 0 | 23 22 34 23 5 50 | | JUNE . | 20 8 26 | 20 10 1 |
| | Aug. | 21 18 44 | 23 5 50 21 13 21 | | JULY . | 19 21 10 18 9 54 | 20 1 2 |
| | SEPT. | 20 7 28 | 19 22 4 | | SEPT. | 18 9 54 16 22 38 | 18 15 11 17 4 17 |
| | Oct. | 19 20 12 | 19 8 41 | | O O | (1 17 0 | 1 3 20 |
| | Nov. | 18 8 56 | 17 21 38 | | OCT | 16 11 22 | 16 16 28 |
| | 0 | (3 3 18 | 3 12 21 | | Nov. | 15 0 6 | 15 4 2 |
| | DEC | [17 21 40] | 17 12 54 | | DEC | 14 12 50 | 14 15 9 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|---|--|--|--|--|--|
| 731. g. March. d. h. m. 17 23 32 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT | 1 | d. h. m. 13 1 52 11 12 16 12 22 38 28 11 11 11 9 30 10 21 29 9 10 56 9 1 52 7 17 47 6 9 56 20 14 13 6 1 36 4 16 15 4 5 36 2 17 36 1 4 13 1 13 42 30 22 28 29 7 16 28 17 1 27 4 33 26 18 21 25 10 19 24 8 44 23 21 32 | A.D. 734. c. March. d. h. m. 17 16 59 | JAN O FEE MAR APRIL MAY . JUNE . O AUG SEPT OCT DEC O JAN FEE MAR APRIL MAY . JUNE . O JULY . SEPT OC | . 23 7 25 | d. h. m. 10 4 21 24 4 33 8 18 54 10 6 34 8 15 43 7 23 11 6 5 55 5 13 1 20 21 24 3 21 35 2 8 36 { 1 22 42 31 15 43 30 10 48 30 6 22 13 17 36 29 0 45 27 16 37 29 5 25 27 15 19 26 28 10 25 5 58 9 23 27 24 12 52 22 20 53 21 6 59 |
| 733. p. 17 11 10 | APRIL MAY JUNE JULY O AUG. SEPT. OCT. NOV. | 21 19 11 20 7 56 { 4 2 18 18 20 40 20 9 24 18 22 8 18 10 52 16 28 36 16 12 20 31 6 49 15 1 4 18 18 48 18 2 85 11 15 16 | 20 19 3 3 22 7 0 19 5 5 20 15 2 18 22 48 18 6 12 3 16 14 17 0 16 0 5 2 81 12 42 4 14 12 25 3 18 8 85 2 12 21 22 | 736. A.G. 17 4 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 8 | OCT. NOV. DEC. JAN. FEB. MAR. APRII MAY JUNE JULY AUG. SEPT. OCT. NOV. O DEC. | . 19 21 37 . 19 10 21 . 17 23 6 . 16 11 50 . 17 0 34 . 15 13 18 . 15 2 2 . 13 14 46 . 18 3 30 . 11 16 14 . 10 4 56 . 9 17 44 . 8 6 2 . 23 0 4 | 16 19 19 17 12 8 16 2 11 15 18 25 18 22 21 18 5 59 4 11 13 24 9 21 34 9 7 18 66 7 19 8 8 28 9 28 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------------|---------------|
| A.D. 737. | | d. h. m. | d. h. m. | A.D. 740. | | d. h. m. | d. h. m. |
| F. | JAN | 6 7 55 | 6 1 24 | C.B. | JAN | 3 23 5 | 4 1 2 |
| d. h. m. | FEB | 4 20 39 | 4 18 55 | d. h. m. | FEB | 2 11 49 | 2 11 25 |
| 17 10 25 | MAR | 6 9 23 | 6 12 44 | 17 3 52 | MAR. | (3 0 33 | 2 21 81 |
| | APRIL | 4 22 7 | 5 5 42 | | 0 | 17 18 55 | 18 8 10 |
| | MAY . | (4 10 51 | 4 20 50 | | APRIL | 1 13 17 | (1 7 46 |
| | 0 | 19 5 13 | 18 22 33 | | | (121 | (30 18 51 |
| | JUNE. | 2 23 35 | 3 9 40 | | MAY . | 30 14 45 | 30 7 21 |
| | JULY. | 2 12 19 | 2 20 20 | | June . | 29 3 29 | 28 21 31 |
| | | (1 1 3 | 1 5 33 | | JULY . | 28 16 18 | 28 13 5 |
| | Aug | 30 13 47 | 30 14 12 | | Aug. | 27 4 57 | 27 5 24 |
| | SEPT. | 29 2 31 | 28 23 8 | | 0 | (10 28 19 | 10 18 28 |
| | Oct | 28 15 15 | 28 9 1 | | SEPT. | 25 17 41 | 25 21 41 |
| | 0 | (12 9 37 | 12 13 41 | | Oct. | 25 6 25 | 25 13 10 |
| | Nov | 27 3 59 | 26 20 12 | | Nov. | 23 19 9 | 24 8 25 |
| | DEC | 26 16 43 | 26 8 46 | | DEC. | 23 7 58 | 28 16 11 |
| | | | | | | | |
| 738. | JAN | 25 5 27 | 24 22 43 | 741. | JAN | 21 20 37 | 22 8 27 |
| E. | FEB | 23 18 11 | 28 18 58 | A. | FEB | 20 9 21 | 20 18 17 |
| 17 16 14 | MAR. | 25 6 55 | | | 0 | 7 3 43 | 7 10 22 |
| 11 10 11 | APRIL | 23 19 39 | | 17 9 41 | MAR | 21 22 5 | 21 22 8 |
| | O | 25 15 55 (8 14 1 | 23 22 5 8 14 40 | | APRIL | 20 10 49 | 20 6 36 |
| | MAY. | 23 8 23 | 23 13 41 | | MAY . | 19 28 88 | 19 15 84 |
| | JUNE . | 21 21 7 | 22 4 1 | | JUNE . | 18 12 17 | 18 1 58 |
| | JULY. | 21 9 51 | 21 16 49 | | JULY. | 18 1 1 | 17 14 88 |
| | Aug | 19 22 35 | 20 4 12 | | Aug | 16 18 45 | 16 5 82 |
| | SEPT. | 18 11 19 | 18 14 43 | | 0 | 15 0 00 | 81 5 49 |
| | Oct | 18 0 3 | 18 1 1 | | SEPT. | 15 2 29 | 14 22 31 |
| | 0 | (1 18 25 | 1 13 2 | | Oct | 14 15 13 | 14 16 40 |
| | Nov | 16 12 47 | 16 11 30 | | Nov | 18 8 57 | 18 10 15 |
| | DEC | 16 1 31 | 15 22 22 | | DEC | 12 16 41 | 18 2 41 |
| | | | | 742. | Jan | 11 5 26 | 11 17 2 |
| 739. | Jan | 14 14 15 | 14 0 41 | G. | FEB | S 18 10 | 10 5 1 |
| 709. D. | FEB. | 13 2 59 | 14 9 41 12 21 32 | | 0 | 24 12 82 | 24 10 28 |
| 17 22 3 | MAR. | 14 15 44 | | 17 15 30 | MAR. | 11 6 54 | 11 14 48 |
| 11 44 S | APRIL | 13 4 28 | 14 10 8 12 23 43 | | APRIL | 9 19 88 | 9 22 56 |
| | MAY . | 12 17 12 | 12 14 18 | | MAY . | 9 8 22 | 9 6 15 |
| | JUNE. | 11 5 56 | 11 5 33 | 7 | June . | 7 21 6 | 7 18 45 |
| | JULY. | 10 18 40 | 10 20 54 | Ì | JULY. | 7 9 50 | 6 22 28 |
| | Aug. | 9 7 24 | 9 11 44 | | Aug | ∫ 5 22 84 | 5 9 28 |
| | SEPT. | 7 20 8 | 8 1 38 | Ì | ~ 0 | 20 16 56 | 20 21 20 |
| | Ост. | 7 8 52 | 7 14 34 | | SEPT | 4 11 18 | 8 28 21 |
| | Nov. | 5 21 36 | 6 2 40 | l | Oct | 4 0 2 | 8 16 1 |
| | DEC. | 5 10 20 | 5 14 7 | | Nov | 2 12 46 | 2 10 41 |
| | | 0 10 20 | 0 TT (| | DEC | § 2 1 80 | 2 5 55 |
| | - | 1 | | 11 3 | 1 | 81 14 14 | ••• |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|--|-----------------------------|----------------------------|--------|------------------------------------|-----------------------------------|
| | | - | | | | | |
| A.D. 743. F. | | d. h. m. | d. h. m. | A.D. 746. | _ | d. h. m. | d. h. m. |
| <i>x</i> . | JAN | { | 1 0 8 | March. | JAN | 26 18 8 | 26 13 59 |
| | | (30 2 58 | 30 16 4 | d. h. m. | FEB | 25 6 52 | 25 7 33 |
| March. | FEB | 28 15 42 | | 17 14 45 | MAR | 26 19 36 | 27 0 53 |
| d. h. m. 17 21 18 | Mr. | | 1 5 5 | | APRIL | 25 8 20 | 25 16 54 |
| 17 21 10 | MAR | 30 4 26 | 30 15 19 | | MAY . | 24 21 4 | 25 6 55 |
| | APRIL | 28 17 10 | 28 23 25 | | 0 | 8 15 26 | 8 6 28 |
| | MAY . | 28 5 54 | 28 6 18 | | JUNE . | 23 9 48 | 23 18 43 |
| | JUNE . | 26 18 38 | 26 13 2 | | JULY. | 22 22 32 | 23 4 44 |
| | JULY . | 26 7 22 | 25 20 46 | | Aug | 21 11 16 | 21 13 45 |
| | Aug. | 24 20 6 | 24 6 31 | | SEPT. | 20 0 0 | 19 22 41 |
| | SEPT. | 23 8 50 | 22 19 7 | | Oct | 19 12 44 | 19 8 15 |
| | | 22 21 34 | 22 10 47 | | Nov. | 18 1 28 | 17 18 51 |
| | Ocr. | 21 10 18 | 21 5 3 | | - n | 17 14 12 | 17 6 41 |
| | Nov. | 20 23 2 | 21 0 34 | | DEC. | 1, 14 12 | 11 0 11 |
| | | (4 17 24 | 4 16 37 | 747. | JAN | 16 2 56 | 15 19 47 |
| | 1 0 | $\begin{cases} \frac{4}{19} & 11 & 47 \\ 19 & 11 & 47 \end{cases}$ | 1 | Δ. | FEB. | 14 15 41 | 14 10 7 |
| 744. | JAN. | | 1 | 17 20 34 | MAR. | 16 4 25 | 16 1 28 |
| E.D. | FEB. | . 18 0 31 | | 11 20 04 | APRIL | (14 17 9 | 14 17 25 |
| 17 8 7 | 1 . | | 1 | | O | 29 11 31 | 29 14 58 |
| | APRII | | | - 11 | MAY . | | 14 9 16 |
| 1 | MAY | 1 | | 11 | _ | 12 18 37 | 13 0 19 |
| | June | 14 | | 11 | JUNE . | 1 | 12 14 2 |
| | 0 | (29 21 4 | | 11 | JULY | | 1 |
| | Julx | . 14 16 13 | 1 | 11 | Aug. | 1 | 11 2 19 |
| | Aug. | . 18 4 5 | | 11 | SEPT. | | 9 13 29 |
| | SEPT. | . 11 17 8 | 9 11 5 38 | 3 | Ocr. | . 8 21 33 | 9 0 5 |
| | Oct. | . 11 62 | 8 10 17 9 | 9 | Nov. | . 7 10 17 | 7 10 37 |
| 1 | Nov. | . 9 19 | 7 9 7 2 | 3 | DEC. | . 623 1 | 6 21 22 |
| 1 | DEC. | . 1975 | 9 0 2 | B | İ | İ | |
| | 0 | 24 2 1 | 8 24 82 | 0 748. | JAN. | . 5 11 46 | 5 8 25 |
| 745. | JAN. | 7 20 8 | 6 7 19 | 2 G.F. | FEB. | . 4 0 30 | 3 19 46 |
| (40. c. | | | 20 6 13 5 | | 3 MAR. | . 4 13 14 | 4 7 40 |
| | 6 MAR | | 4 8 7 4 | - 11 | APRI | L 3 1 5 | 8 2 20 26 |
| 17 8 5 | | | 8 6 23 | 7 | 0 | 17 20 2 | 0 18 7 15 |
| | APR | | | . 11 | MAX | . 2 14 4 | 2 2 10 16 |
| | MAY | | | 54 | | (1 3 2 | 6 1 1 6 |
| | JUNI | 12 | | . 11 | JUNE | 1 1 30 16 1 | 0 30 16 30 |
| | _ 0 | (19 6 | | 11 | JULY | 00 4 5 | |
| | Jum | 1 | 0 4 5 | 11 | Aug | | 1 |
| | Aug | 1 | 15 01 01 | | SEPT | 1 0 - | |
| | SEPT | $\int 1 2$ | | 11 | 1 | | 44 11 11 21 |
| | L. L. | (80.19 | 12 80 6 | 11 | Oct | 13 00 40 | 6 27 0 57 |
| | Oct. | . 80 8 | 56 29 17 | 11 | Nov | | 50 25 12 53 |
| | Nov | 28 16 | 10 | 12 | DEC | | _ |
| | 10 | (18 11 | 2 13 21 | 0 | DEC | 24 20 . | |
| 1 | DEC | 14 | 24 27 21 | 15 | | | t |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. (O Full Ecl. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. |
|----------------------------|---------------|-----------------------------------|-----------------------------|----------------------------|--------|-----------------------------------|----------------|
| A.D. 749. | | d. h. m. | d. h. m. | A.D. 752. | | d. h. m. | d. h. m. |
| March. | JAN | 23 9 18 | 23 10 40 | B.A. | JAN | 21 0 28 | 21 12 32 |
| d. $h.$ $m.$ | FEB | 21 22 2 | 21 20 38 | ,, | | (4 18 50 | 4 12 58 |
| 17 8 11 | MAR | 23 10 46 | 23 6 30 | d. $h.$ $m.$ | FEB | 19 13 12 | 20 2 59 |
| 1 | 0 | 7 5 8 | 7 18 30 | 17 1 30 | MAR. | 20 1 56 | 20 14 28 |
| 1 | APRIL | 21 23 30 | 21 16 48 | | APRIL | 18 14 40 | 18 23 25 |
| 1 | MAY . | 21 12 14 | 21 4 19 | | MAY . | 18 3 24 | 18 6 42 |
| 1 | JUNE . | 20 0 58 | 19 17 30 | 11 | JUNE . | 16 16 8 | 16 13 20 |
| 1 | JULY. | 19 13 42 | 19 8 25 | | JULY . | (16 4 52 | 15 20 27 |
| | AυG | 18 2 26 | 18 0 37 | | 0 | 30 23 14 | 31 4 18 |
| | SEPT | 16 15 10 | ſ16 17 16 | | Aug | 14 17 36 | 14 5 7 |
| 1 | 0 | (1 9 32 | 130 22 28 | | SEPT. | 13 6 20 | 12 16 18 |
| 1 | Oct | 16 3 54 | 16 9 31 | | Ост. | 12 19 4 | 12 6 32 |
| | Nov | 14 16 38 | 15 0 41 | | Nov | 11 7 48 | 10 23 39 |
| | DEC | 14 5 22 | 14 14 22 | | DEC | 10 20 32 | 10 18 44 |
| 750. | JAN | 12 18 7 | 13 2 24 | 753. | Jan | (9 9 17 | 9 14 16 |
| D. | FEB | 11 6 51 | 11 12 49 | G. | 0 | 24 3 39 | 24 2 20 |
| 17 14 0 | MAR | 12 19 35 | 12 21 55 | | FEB | 7 22 1 | 8 8 33 |
| • | APRIL | 11 8 19 | 11 6 14 | 17 7 27 | MAR | 9 10 45 | 10 0 16 |
| | MAY . | 10 21 3 | 10 14 37 | | APRIL | 7 23 29 | 8 12 55 |
| | JUNE. | 9 9 47 | 9 0 2 | | MAY. | 7 12 13 | 7 22 45 |
| | JULY. | 8 22 31 | 8 11 23 | | JUNE . | 6 0 57 | 6 6 84 |
| | Aug | 7 11 15 | 7 1 13 | | JULY . | (5 13 41 | 5 13 28 |
| | SEPT | 5 23 59 | 5 17 28 | | 0 | 20 8 3 | 20 6 2 |
| | Oct | 5 12 43 | 5 11 11 | | Avg | 4 2 25 | 3 20 81 |
| 1 | Nov | 4 1 27 | 4 5 27 | | SEPT | 2 15 9 | 2 4 48 |
| | DEC | 3 14 11 | 3 22 52 | | 0 | (2 8 53 | 1 15 9 |
| | | | | | Oct | 81 16 37 | 31 4 7 |
| 751. | JAN | 2 2 55 | 2 14 25 | | Nov | 80 5 21 | 29 19 47 |
| C. | 70 | (31 15 39 | ••• | | DEC | 29 18 5 | 29 18 35 |
| | FEB | 3, | 1 3 33 | | | | |
| | 0 | (15 10 1 | 15 5 52 | 754. | JAN | 28 6 50 | 28 8 25 |
| 17 19 49 | MAR | 2 4 24 | 2 14 17 | F. | FEB | 26 19 34 | 27 2 46 |
| | ABDAT | (31 17 8 | 31 23 0 | 17 13 16 | MAR. | 28 8 18 | 28 19 19 |
| | APRIL MAY. | 30 5 52 | 30 6 28 | | APRIL | 26 21 2 | 27 9 17 |
| | JUNE. | 29 18 36 | 29 13 36 | | MAY . | 26 9 4 6 | 26 20 82 |
| | - | 28 7 20 | 27 21 30 | İ | JUNE . | 24 22 30 | 25 5 88 |
| | JULY . | 27 20 4 | 27 7 13 | İ | JULY. | 24 11 14 | 24 13 81 |
| | Aug. | 11 14 26 | 11 20 10 | | Aug | 22 23 58 | 22 21 16 |
| | SEPT. | (== - 20) | 25 19 40 | | SEPT | 21 12 42 | 21 5 49 |
| | OCT. | 24 21 32 | 24 11 5 | 1 | Oct | 21 1 26 | 20 15 50 |
| | Nov. | 24 10 16 | 24 5 2 | | Nov | 19 14 10 | 19 8 47 |
| | DEC. | 22 23 0 | 23 0 18 | l | 0 | § 4 8 32 | 4 17 58 |
| | DEC. | 22 11 44 | 22 19 19 | | DEC | 19 2 54 | 18 17 44 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|--|--|--|---|---|---|
| A.D. 755. E. March. d. h. m. 17 19 4 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT Nov O | d. h. m. 17 15 38 16 4 22 17 17 6 16 5 50 (15 18 34 (30 12 56 14 7 18 13 20 2 12 8 46 10 21 30 10 10 14 (8 22 58 (23 17 20 8 11 42 | d. h. m. 17 9 81 16 2 32 17 19 53 16 12 31 16 3 32 30 5 49 14 16 30 14 3 29 12 13 7 10 22 14 10 7 38 8 17 49 23 21 40 8 5 8 | A.D. 758. A. March. d. h. m. 17 12 31 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV | d. h. m. 14 6 48 12 19 32 {14 8 16 29 2 38 12 21 0 12 9 44 10 22 28 10 11 12 8 23 56 { 7 12 40 {22 7 2 7 1 24 5 14 8 5 2 52 | d. h. m. 14 9 53 12 19 57 14 5 34 29 15 29 12 15 18 12 1 52 10 14 1 10 4 4 8 19 48 7 12 31 21 21 35 7 5 20 5 21 24 |
| 756. p.c. 17 0 58 | JAN FEB MAR APRIL MAY . O JUNE . JULY . AUG SEPT OCT O NOV | $\begin{array}{cccccccccccccccccccccccccccccccccccc$ | 6 17 24 5 6 54 5 21 28 4 12 58 4 4 42 18 22 11 2 20 10 2 10 41 5 30 11 51 8 28 22 57 7 28 9 42 9 11 20 58 1 26 20 27 | 759. g. 17 18 20 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG O SEPT OCT. NOV. DEC. | 3 15 87 2 4 21 3 17 5 18 11 27 2 5 49 1 18 83 81 7 17 29 20 1 29 8 45 27 21 29 11 15 51 26 10 18 25 22 57 | 4 0 58 2 12 6 3 21 40 18 17 29 2 6 5 1 14 7 30 22 43 29 8 54 28 21 26 27 12 33 11 13 57 3 26 5 50 26 0 14 24 18 25 |
| 757. B. 17 6 42 | DEC JAN FEB MAR APRIL O MAY . JUNE . JULY . AUG SEPT OGT NOV DEC. | 24 21 55 28 10 40 24 23 27 28 12 1 | 9 24 18 20 8 28 5 41 7 24 17 40 1 28 6 41 8 8 15 7 5 22 20 51 9 21 11 58 8 21 8 30 7 19 18 47 1 18 9 17 15 17 22 49 | 760. F.E. 17 0 9 | JAN. FEB. O MAR. APRII MAY JUNE JULY AUG. O SEPT. OCT. NOV. DEC. | . 21 1 58 6 20 11 . (21 14 3 2 0 3 2 1 19 16 3 18 4 4 4 17 17 3 (16 6 1 (31 0 8 1 4 19 14 7 4 4 19 14 7 4 | 3 21 13 20 5 6 17 47 7 21 22 51 1 20 6 41 5 19 13 43 9 17 21 2 3 17 5 41 7 15 16 43 89 31 5 7 1 14 6 43 5 13 28 37 19 12 18 31 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Rel.) | True New Moon, (O Fall Rel.) | Yernal Rquinot | Month | Mean New Moon (Full Rel s | Trus New Mores Pull Bel |
|----------------------------|------------|------------------------------------|------------------------------------|-------------------|--------|----------------------------------|-------------------------|
| A.D. 761. | [1] | d. h. m. | il. A. m. | A.D. 704 | | d 4 m | d. h. m. |
| D, | JAN. | 10 21 58 | 11 # 16 | A.4. | Jan | H 18 H | H 5 85 |
| March. | Fan | 9 10 42 | 10 0 9 | March. | Van. | 7 4 60 | 0 21 49 |
| 17 5 57 | MAR. | 10 28 26 | 11 18 9 | 10 21 21 | Man | 7 14 14 | 7 14 58 |
| | Armit. | 9 12 10 | 9 23 4 | | Arnie | 6 8 3 | 6 7 47 |
| | MAY . | 9 0 54 | 9 6 60 | | Max | 5 16 4 | 5 221 (91) |
| | Junn . | 7 18 84 | 7 18 45 | | Jenn . | 1 4 4 44 | 4 1/1 30 |
| | JULY . | 7 9 24 | 8 20 20 | | | 118 23 10 | 1 1 1 1 12 12 1 |
| | Atta | 5 15 6 | 5 4 14 | | Jusy . | 8 17 82 | 4 1 12 |
| | Surr. | 4 8 50 | B 14 14 | | | 1 2 6 11. | 2 12 9 |
| | Ocr | 8 16 84 | 3 2 50 | | Atra | (81 19 0 | 31 21 40 |
| | Nov | 2 5 18 | 1 18 46 | | Harr. | 30 : 44 | (B) 7 4 |
| | Date. | 1 18 2 | 1 18 2 | | Ocr | 20 20 20 | Zi 10 bis |
| | AJBG: , | (81 0 46 | at a az | | Nov | 20 0 12 | 24 3 45 |
| | | | | | Day. | 27 21 56 | 27 15 De |
| | 0 | [15 1 9 | 15 1 24 | | | | |
| 762. | JAH | (30 10 81 | in) Han | 766. | Jan. | 26 10 41 | 26 4 12 |
| a. | Pas | WH H 15 | 28 20 85 | P. | Fun. | M 181 185 | 24 17 57 |
| 17 11 46 | MAR. | 20 20 50 | 80 10 42 | 17 6 12 | Man. | 26 12 9 | (B) # 41 |
| | APRIL. | 28 9 48 | 2H 21 No | | Armit | 25 0 53 | 25 0 a |
| | MAY . | 27 22 27 | SH H HI | | (3 | 0 10 15 | 0 21 53 |
| | June . | 26 11 11 | 26 18 40 | | May . | 124 18 87 | 24 15 45 |
| | _ O | 11 6 88 | 11 1 20 | | June . | 20 2 21 | 28 6 51 |
| | JULY. | (25 28 55 | 26 20 48 | | Just . | 21 15 5 | 22 30 55 |
| | Atto | 24 12 80 | 24 4 24 | | Ata | 21 8 49 | 21 0 43 |
| | SEPT. | 28 1 38 22 14 7 | 28 18 45 | | Harr . | 19 16 23 | 10 21 28 |
| | Oor Nov | | 23 1 24 | | Orr, , | 19 8 17 | 19 9 87 |
| | Duc. | 20 15 85 | 20 15 40 | | Nov | 17 18 1 | 17 19 BI |
| | APRICE . | AU 10 00 | 20 H B4 | | Dac | 17 6 45 | 17 6 21 |
| | a | (4 B 57 | 4 17 12 | | | | |
| 763. | JAN | 19 4 19 | 19 2 88 | 700. | Jan. | 18 10 20 | 15 17 12 |
| B. | Fus | 17 17 8 | 17 21 34 | | Fun. | 14 9 18 | 14 4 8 |
| 17 17 85 | Man | 19 5 47 | 19 14 87 | 17 11 1 | Man. | | 15 th 27 |
| | Aruit | 17 IH S1 | 18 6 8 | | Arail | 14 9 41 | 14 8 87 |
| | MAY . | 17 7 15 | 17 19 43 | | £3 | 20 4 8 | 20 14 45 |
| | Juna . | j 15 19 50 | 16 4 62 | | May . | | 18 16 58 |
| | O | 80 14 21 | 80 4 2 | - Annual Control | June . | | 19 7 84 |
| | July . | 15 H 48 | 15 18 21 | | July . | A. A | 11 28 0 |
| | Aug | 18 21 27 | 18 21 14 | | App. | | 10 14 30 |
| | Sart | | 12 8 20 | | Barr. | 9 1 21 | |
| | Oor | 11 92 55 | 11 14 50 | | Qer | (# 14 B | m 20 12 |
| | | 10 11 89 | 10 1 54 | 1 | U | 4 | 22 19 30 |
| | | | 9 14 4H | | Nov | 7 2 40 | 7 9 80 |
| 1 | 0 | 34 18 45 | 25 5 84 | 2 | Dass. | 6 15 80 | 6 21 45 |

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| | | | | • | | | |
|----------------------------|---|--|---|----------------------------|---|------------------------------------|-------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | Frue New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New · Moon.) Full Ecl.) |
| 768. c.B. 16 22 89 | JAN. FEB. MAR. APRIL O MAY. JUNE JULY. AUG. OCT. NOV. DEC. JAN. FEB. OCT. NOV. DEC. JAN. FEB. OCT. NOV. DEC. JAN. FEB. OCT. NOV. DEC. JAN. FEB. OCT. NOV. DEC. SEPT. OCT. NOV. DEC. JAN. FEB. OCT. NOV. OCT. NOV. OCT. NOV. OCT. NOV. OCT. NOV. OCT. NOV. OCT. NOV. OCT. NOV. OCT. NOV. | d. h. m. 5 4 18 8 17 2 5 5 46 { \$ 18 30 { 18 12 52 8 7 14 1 19 58 { 1 8 42 { 80 21 26 29 10 10 27 22 54 { 12 17 16 { 27 11 38 26 0 22 25 13 6 24 1 51 22 14 35 23 3 19 21 16 3 21 4 47 19 17 31 19 6 15 17 18 59 16 7 43 15 20 27 14 9 11 18 21 55 12 10 39 { 10 28 23 25 17 45 10 18 85 9 2 19 8 15 8 7 8 47 21 22 9 5 16 31 5 5 16 8 17 59 | d. h. m. 5 9 1 3 19 20 5 4 55 3 14 14 19 1 42 3 0 2 1 11 9 1 0 8 30 15 6 29 7 34 28 0 48 12 6 58 27 17 32 26 9 11 25 23 5 24 11 6 22 21 16 23 6 0 21 13 55 20 21 56 19 7 4 18 18 18 17 8 11 16 0 35 15 18 47 14 13 26 14 7 11 12 22 52 11 11 55 25 13 32 12 22 25 11 6 51 10 14 2 8 20 57 8 4 45 6 14 31 22 3 42 5 3 8 4 18 39 8 12 48 | 771. F. 17 16 5 | JAN FEB. O MAR APRIL MAY . JUNE . OCT NOV DEC JAN O FEB MAR APRIL MAY . JUNE . JULY . O AUG SEPT OCT NOV FEB AFRIL MAY . JUNE . JULY . OLUMAN . SEPT OCT NOV FEB | d. h. m. { 1 19 28 | d. h. m. 2 |
| | DEC. | . 8 6 43 | | | DEC. | . {29 10 3 | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 773. | | d. h. m. | d. h. m. | A.D. 776. | | d. h. m. | d. h. m. |
| C. | JAN | 27 23 21 | 27 17 33 | G.F. March. | JAN | 25 14 32 | 25 18 40 |
| d. h. m. | FEB | 26 12 6 | 26 10 3 | d. h. m. | FEB | 24 3 16 | 24 4 23 |
| 17 3 43 | MAR | 28 0 50 | 28 2 53 | 16 21 9 | MAR | 24 16 0 | 24 13 32 |
| | APRIL | 26 13 34 | 26 19 13 | | 0 | 8 10 22 | 8 22 39 |
| | MAY . | 26 2 18 | 26 10 12 | | APRIL | 23 4 44 | 22 22 4 5 |
| | 0 | 5 9 20 40 | 9 13 6 | | MAY . | 22 17 28 | 22 8 54 |
| | JUNE. | 24 15 2 | 24 23 20 | | June . | 21 6 12 | 20 20 45 |
| 1 | JULY. | 24 3 46 | 24 10 42 | | JULY. | 20 18 56 | 20 10 48 |
| | Aug | 22 16 30 | 22 20 50 | | Aug | 19 7 40 | 19 2 37 |
| | SEPT | 21 5 14 | 21 6 27 | | SEPT | 17 20 24 | 17 19 46 |
| | Ocr | 20 17 58 | 20 16 16 | | 0 | 5 2 14 46 | 2 5 56 |
| | Nov | 19 6 42 | 19 2 42 | | Oct | 17 9 8 | 17 13 7 |
| | 0 | 5414 | 4 5 43 | | Nov | 15 21 52 | 16 5 42 |
| | DEC | 18 19 26 | 18 13 56 | | DEC | 15 10 36 | 15 20 41 |
| 774. | JAN | 17 8 10 | 17 1 59 | 777. | Jan | 13 23 20 | 14 9 40 |
| В. | FEB | 15 20 54 | 15 14 57 | E. | FEB | 12 12 4 | 12 20 88 |
| 17 9 32 | MAR. | 17 9 38 | 17 4 55 | 17 2 58 | MAR | 514 0 48 | 14 5 51 |
| | APRIL | 15 22 22 | 15 19 46 | | 0 | 28 19 10 | 29 0 29 |
| | MAY . | (15 11 6 | 15 11 14 | | APRIL | 12 13 32 | 12 13 58 |
| | 0 | 30 5 28 | 30 5 38 | | MAY . | 12 2 16 | 11 21 82 |
| | JUNE. | 13 23 50 | 14 2 38 | | JUNE. | 10 15 0 | 10 5 51 |
| | JULY. | 13 12 34 | 13 17 23 | | JULY. | 10 3 44 | 9 15 52 |
| ĺ | Avg | 12 1 18 | 12 7 2 | | AUG | 8 16 28 | 8 4 24 |
| | SEPT | 10 14 2 | 10 19 34 | | SEPT | 5 7 5 12 | 6 19 41 |
| | Oct | 10 2 46 | 10 7 15 | | 0 | 21 28 34 | 21 22 13 |
| | Nov | (8 15 30 | 8 18 27 | | Ocr | 6 17 56 | 6 18 16 |
| | 0 | 23 9 52 | 23 4 51 | | Nov | 5 6 40 | 5 8 8 |
| | DEC | 8 4 14 | 8 5 24 | | DEC | 4 19 24 | 5 2 85 |
| 775. | JAN | 6 16 59 | 6 16 13 | 778. | Jan | 8 8 9 | 8 19 80 |
| Α. | FEB. | 5 5 43 | 5 2 55 | | FEB | 1 20 53 | 2 9 54 |
| 17 15 21 | MAR. | 6 18 27 | 6 13 44 | 17 8 47 | MAR | 8 9 37 | 8 21 82 |
| | APRIL | 5 7 11 | 5 1 7 | | . 0 | 18 8 59 | 18 1 5 |
| | MAY . | (4 19 55 | 4 13 34 | | APRIL | 1 22 21 | 2 6 47 |
| | 0 | 19 14 17 | 19 22 32 | | MAY . | { 1 11 5 | 1 14 21 |
| | JUNE. | 3 8 39 | 3 3 25 | | | 180 28 49 | 80 21 10 |
| | JULY. | 2 21 23 | 2 18 27 | | JUNE. | 29 12 88 | 29 4 22 |
| | | (1107 | 1 10 12 | | JULY. | 29 1 17 | 28 13 1 |
| 1 | Avg | 30 22 51 | 31 1 56 | | Aug | 27 14 1 | 27 0 8 |
| | SEPT | 29 11 35 | 29 17 3 | | 0 | 11 8 28 | 11 18 0 |
| | Oct | 29 0 19 | 29 7 10 | | SEPT | (26 2 45 | 25 14 17 |
| | Nov | 27 13 3 | 27 20 9 | | Oct | 25 15 29 | 25 7 21 |
| | DEC | 27 1 47 | 27 7 57 | | Nov | 24 4 18 | 24 2 26 |
| | | | | | DEC | 28 16 57 | 28 21 58 |

| - | | | | TAIL TIME. | | | |
|----------------------------|--------|-------------------------------------|-----------------------------|----------------------------|--------|------------------------------------|-----------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
| A.D. 779. | | d. h. m. | d. h. m. | A.D. 782. | | d. h. m. | d. h. m. |
| c. March. | JAN | 22 5 42 | 22 16 18 | F. | 0 | (4 2 30 | 4 14 7 |
| d, h, m | FEB | 20 18 26 | 21 8 6 | | JAN | 18 20 52 | 18 13 52 |
| 17 14 86 | MAR | 22 7 10 | 22 20 48 | March. | FEB | 17 9 36 | 17 5 34 |
| | APRIL | 20 19 54 | 21 6 41 | d. h. m. 17 8 2 | MAR. | 18 22 20 | 18 22 3 |
| | MAY . | 20 8 38 | 20 14 27 | 1, 0 2 | APRIL | 17 11 4 | 17 14 33 |
| | June . | 18 21 22 | 18 21 12 | | MAY. | 16 23 48 | |
| | JULY. | 18 10 6 | 18 4 2 | | | | 17 6 13 |
| | Aug. | 16 22 50 | 16 12 0 | | JUNE. | (15 12 32 | 15 20 21 |
| | SEPT. | 15 11 84 | 14 22 7 | | | (30 6 54 | 29 20 53 |
| | Ocr | 15 0 18 | 14 11 0 | 9 | JULY. | 15 1 16 | 15 8 44 |
| | Nov. | 18 18 2 | 1 | | Aug | 13 14 0 | 13 19 38 |
| l | 1 | 1 | - 1 | | SEPT | 12 2 44 | 12 5 40 |
| | DEC. | 18 1 46 | 12 21 5 | | Oct | 11 15 28 | 11 15 34 |
| | | | | | Nov | 10 4 12 | 10 1 49 |
| 780. | JAN | 511 14 80 | 11 16 25 | | DEC | 9 16 56 | 9 12 41 |
| B.A. | 0 | 26 8 52 | 26 10 18 | | | | 1 |
| | FEB | 10 8 14 | 10 11 13 | 783. | JAN | 8 5 40 | 8 0 14 |
| 16 20 25 | MAR | 10 15 58 | 11 4 2 | E. | FEB | 6 18 24 | 6 12 30 |
| | APRIL | 9 4 42 | 9 18 0 | 17 13 51 | MAR | 8 7 8 | 8 1 39 |
| | MAY . | 8 17 26 | 9 5 4 | | APRIL | 6 19 52 | 6 15 47 |
| | JUNE . | 7 6 10 | 7 13 49 | | MAY . | 6 8 36 | 6 6 46 |
| ļ | JULY . | (6 18 54 | 6 21 13 | | JUNE . | 4 21 20 | 4 22 12 |
| 1 | 0 | 21 18 16 | 21 8 0 | | JULY. | 4 10 4 | 4 13 25 |
| 1 | Aug | 5 7 38 | 5 4 24 | | Aug | 2 22 48 | 3 3 49 |
| | SEPT | 8 20 22 | 8 12 24 | | SEPT | 1 11 32 | 1 17 12 |
| 1 | Oct | 8 9 6 | 2 22 2 | | | (1 0 16 | 1 5 33 |
| | Nov. | 1 21 50 | 1 9 53 | | Oct | (30 13 0 | 30 17 12 |
| | _ | (1 10 84 | 1 0 13 | | Nov | 29 1 44 | 29 4 25 |
| 1 | DEC. | 80 28 19 | 80 16 45 | | DEC | 28 14 28 | 28 15 19 |
| | | | | | | | |
| | | (14 17 41 | 15 2 1 | 784. | JAN | 27 3 13 | 27 1 56 |
| 781. | JAN. | 29 12 8 | | D.C. | FEB. | 02 45 FM | 25 12 24 |
| · 0. | FEB. | 28 0 47 | 28 4 50 | 16 19 40 | MAR. | | 25 23 9 |
| 17 2 16 | | | 29 21 57 | 10 20 20 | APRIL | 24 17 25 | 24 10 44 |
| ** W T. | APRIL | | 28 13 4 | | 0 | (9 11 47 | 9 22 9 |
| 1 | MAY | | 28 1 40 | 1 | MAY | 3 | 23 23 40 |
| | 1 | | | | JUNE | | 22 14 3 |
| I | June | (10 22 5 | | | July | | 22 5 34 |
| | 7 | 3 | | | Aug. | 00.00.04 | 20 21 36 |
| | July | | 1 | | SEPT. | | |
| | Avg. | | | . } | Oct. | 18 21 49 | |
| | SHPT. | | | 11 | 001. | (2 16 1 | |
| | Oor. | . 22 6 89 | | II. | Nov. | 12 | |
| | Nov. | 00 0 5 | | 11 | DEC. | . 16 23 17 | |
| | DEC. | . 20 8 7 | 15 25 27 | | JEV. | | |
| | İ | 1 | 1 | 11 | | | |

D D

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|------------|--|---|----------------------------|------------|------------------------------------|------------------------------------|
| A.D. | | d. h. m. | d. h. m. | A.D. 788. | | d. h. m. | d. h. m. |
| 785. в. | Tax | 15 12 1 | 15 17 51 | F.E. | JAN | 13 3 11 | 13 11 22 |
| March. | JAN Feb | 14 0 45 | 14 3 53 | | FEB | (11 15 55 | 12 4 80 |
| d. h. m. 17 1 29 | MAR | 15 13 29 | 15 13 3 | March. $d. h. m.$ | 0 | 26 10 17 | 26 5 15 |
| 11 1 40 | APRIL | (14 2 13 | 13 21 52 | 16 1 8 55 | MAR | 12 4 39 | 12 18 42 |
| | O | 28 20 35 | 29 8 46 | | APRIL | 10 17 23 | 11 5 50 |
| | MAY . | 13 14 57 | 13 7 13 | | MAY. | 10 6 7 | 10 14 29 |
| | June. | 12 3 41 | 11 17 59 | | June . | 8 18 51 | 8 21 86 |
| | July. | 11 16 25 | 11 6 49 | | July . | 8 7 35 | 8 4 17 |
| | ΑυG | 10 5 9 | 9 21 51 | | Aug | 6 20 19 | 6 11 87 |
| | SEPT | 8 17 53 | 8 14 39 | | 0 | 21 14 41 | 21 18 21 |
| | Oct | (8 6 37 | 8 8 18 | | SEPT | 5 9 8 | 4 20 40 |
| | 0 | 23 0 59 | 22 15 25 | | Ocr | 4 21 47 | 4 8 12 |
| 1 | Nov | 6 19 21 | 7 1 36 | | Nov. | 3 10 31 | 2 22 89 |
| | DEC | 6 8 5 | 6 17 39 | | DEC | 2 28 15 | 2 15 47 |
| | | | | | | (1 11 59 | 1 10 40 |
| 786. | JAN | 4 20 50 | 5 7 46 | 789. | JAN | 81 0 48 | 81 5 48 |
| Α. | FEB | 3 9 34 | 3 19 41 | D. | FEB. O | 14 19 5 | 14 19 29 |
| 17 7 18 | MAR | 4 22 18 | 5 5 35 | | 1 115.0 | (1 13 28 | 1 28 40 |
| | APRIL | 3 11 2 | 3 13 56 | 17 0 44 | MAR. | 81 2 12 | 81 15 8 |
| | MAY . | 1 | 2 21 28 | | APRIL | 29 14 56 | 80 8 80 |
| | JUNE . | | $\begin{cases} 1 & 5 & 12 \\ 30 & 14 & 9 \end{cases}$ | | MAY . | 29 3 40 | 29 18 17 |
| | JULY . | $\begin{cases} 1 & 1 & 14 \\ 00 & 10 & 50 \end{cases}$ | 1 | | JUNE . | 27 16 24 | 27 21 19 |
| | | (30 13 98 | 3 | | JULY . | 27 5 8 | 27 4 85 |
| | Ang. | 1 | 1 | | 0 | (10 28 80 | 10 19 8 |
| | SEPT. | 07 4 40 | 27 7 56 27 2 28 | | Aug | 25 17 52 | 25 12 14 |
| | Nov. | | | | SEPT | 24 6 86 | 28 21 6 |
| | DEC. | 07 7 90 | | 1 | Ocr | 28 19 20 | 28 7 55 |
| | DEO. | | 20 10 20 | | Nov. | 22 8 4 | 21 21 0 |
| 707 | JAN. | . 23 18 28 | 24 7 12 | | DEC | 21 20 48 | 21 12 24 |
| 787. G. | FEB. | 20 | | 700 | T | 20 9 88 | 20 5 84 |
| | O O | (9 1 29 | | 790. c. | JAN FEB | 18 22 17 | 18 28 88 |
| 17 13 7 | 1 | 13 | | 17 6 83 | | 1 | 20 17 9 |
| 1, 10 | APRII | | 1 | 1, 0 99 | APRIL | 18 28 45 | 19 9 15 |
| | MAY | | | | Max | | |
| | JUNE | 1 | | | JUNE | | |
| | JULY | . 19 22 47 | 7 19 12 9 | | JULY | | |
| | Aug. | . 18 11 31 | 17 21 58 | | Aug. | | 1 |
| | 0 | (2 5 5 | 3 2 11 22 | | SEPT. | | |
| | SEPT. | . 17 0 1 | 5 16 10 37 | | Ocr. | 1 | |
| İ | Oct. | . 16 12 59 | 9 16 2 24 | | Nov. | . 11 16 58 | |
| | Nov. | . 15 1 4 | 3 14 20 42 | 1 | DEC. | . (11 5 8 | |
| | DEC. | . 14 14 2 | 7 14 16 14 | : | 0 | 25 28 5 | 9 26 10 51 |
| | <u> </u> | | | 1 | | | |
| ~ | | | | | | | |

| | Carolinana managana | and the committee of th | | | | | |
|----------------------------|-----------------------------|--|---------------------------------|----------------------------|--------|------------------------------------|---------------------------------|
| Moan Vernal Kquinox, | Month. | Mean New Moon. | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Full Ecl.) |
| A.D. 791. | i Mara destallora aggraga a | d. h. m. | d. h. m. | A.D. 794. | | d. h. m. | d. h. m. |
| n | JAN | 9 18 21 | 9 10 42 | E. | JAN | 6 9 31 | 6 16 50 |
| March. | Fra. | 8 7 5 | 8 1 32 | March. $d. h. m.$ | FEB | 4 22 15 | 5 3 20 |
| 17 12 22 | MAR. | 9 19 49 | 9 17 25 | 17 5 48 | MAR. | 6 10 59 | 6 12 41 |
| | Argu | 8 8 83 | 8 9 47 | 11 0 10 | APRIL | 4 23 43 | 4 21 20 |
| | MAY . | 7 21 17 | 8 1 49 | | MAY. | 4 12 27 | 4 6 6 |
| | JUNE. | (610 1 | 6 16 46 | | June . | 8 1 11 | 2 15 52 |
| | O CO | 2 1 | 20 20 28 | | | 2 13 55 | 2 3 30 |
| | 1 | 21 4 28 | - 11 | | July. | (1 2 39 | 31 17 28 |
| | July. | 5 22 45 | 6 6 10 | | Aug | | |
| | Ava. | 4 11 29 | 4 17 57 | | ~ | (80 15 28 | 30 9 35 |
| | SEPT. | 8 0 18 | 8 4 87 | | Sept | 29 4 7 | 29 3 9 |
| | Ocr. | 2 12 57 | 2 14 45 | | 0 | (13 22 29 | 13 14 25 |
| 1 | Nov. | 5 1 1 41 | 1 1 0 | | Oct | 28 16 51 | 28 21 1 |
| i | | 180 14 25 | 80 11 88 | | Nov | 27 5 35 | 27 14 1 |
| | 0 | 15 15 8 47 | 15 18 45 | | DEC | 26 18 19 | 27 5 15 |
| | DEC | \$30 8 9 | 29 22 48 | | | | |
| | | | | 795. | JAN | 25 7 4 | 25 18 17 |
| 702. | JAN. | 28 15 54 | 28 10 81 | υ. | FEB | 28 19 48 | 24 5 2 |
| A.11. | Fan | 27 4 88 | 26 22 56 | 17 11 87 | MAR | 25 8 32 | 25 13 54 |
| 10 18 11 | MAR. | 27 17 22 | 27 12 16 | | 0 | 9 2 54 | 9 7 24 |
| | Armin | 26 6 6 | 26 2 86 | | APRIL | 128 21 16 | 28 21 35 |
| | MAY . | 25 18 50 | 25 17 42 | | MAY. | 28 10 0 | 28 4 57 |
| | 0 | ξ 9 18 12 | 9 18 5 | | JUNE . | | 21 13 3 |
| | Juna . | 21 7 81 | 24 9 5 | | July. | 21 11 28 | 20 22 58 |
| Ti- | July . | 28 20 18 | 24 0 7 | | Aug. | 20 0 12 | 19 11 82 |
| | Aug. | 22 0 2 | 22 14 17 | | SEPT | 18 12 56 | 18 8 0 |
| 1 | BEPT. | 20 21 46 | 21 8 26 | | 0 | § 8 7 18 | 8 6 36 |
| 1 | Oct. | 20 10 80 | 20 15 41 | | Ocr. | 18 1 40 | 17 20 52 |
| and Color | Nov. | 18 28 14 | 19 8 17 | | Nov. | 16 14 24 | 16 15 58 |
| i e | O | C 8 17 86 | 8 12 50 | | DEC. | . 16 8 8 | 16 10 44 |
| Miles v (M) | ¥4 | . His ii sa | 18 14 24 | | | | |
| | | | | 796. | JAN. | . 14 15 58 | 15 3 46 |
| 793. | JAN. | . 17 0 48 | 17 1 4 | C.B. | FEB. | . 18 4 37 | 13 18 7 |
| ₽, | Fun. | . 15 18 27 | 15 11 28 | 16 17 26 | MAR. | 15 | |
| 17 0 | U MAR. | . 17 2 11 | 16 21 89 | 1 | 0 | 28 11 48 | 1 |
| | Arnu | . 15 14, 55 | 15 8 28 | - | APRII | | 12 14 34 |
| | MAY | . (15 8 81 | 14 20 26 | | MAY | | |
| | () | 29 22 1 | 80 5 58 | ; | JUNE | 1 | |
| | June | 1 444 444 444 | 18 9 57 | · | July | 1 | |
| | Jeny | | 18 0 58 | 3 | Aug. | | 1 |
| | Ana. | | 11 16 58 | 3 | SEPT. | . 6 21 4 | |
| | Barr. | | 1 | 3 | 0 | ₹21 16 7 | |
| - | Ocr. | | 1 | 3 | Ocr. | 6 10 29 | |
| 2 | Nov. | . 88 | | . 11 | Nov. | . 4 28 18 | |
| | | 7 20 4 | | 3 | DEC. | 4 11 5 | 7 4 10 24 |
| İ | 4.7 67.71 | | | | | | And the second with the Prince |
| • | 1 | 1 | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 797. | | d. h. m. | d. h. m. | A.D. 800. | | d. h. m. | d. h. m. |
| A. | JAN | 3 0 41 | 3 5 56 | E.D. March. | 0 | ∫15 10 13 | 15 22 32 |
| d. h. m. | FEB | 1 13 25 | 2 0 11 | d. h. m. | JAN | (30 4 35 | 29 22 4 |
| 16 23 15 | MAR | 3 2 9 | 3 15 50 | | FEB | 28 17 19 | 28 13 11 |
| | APRIL | 1 14 53 | 2 4 25 | 16 16 41 | MAR. | 29 6 3 | 29 5 7 |
| | May . | ∫ 1 3 37 | 1 14 9 | | APRIL | 27 18 47 | 27 21 18 |
| | MLAX . | (30 16 21 | 30 21 52 | | MAY . | 27 7 31 | 27 12 44 |
| | June . | 29, 5 5 | 29 4 40 | | June. | 25 20 15 | 26 8 1 |
| | JULY . | 28 17 49 | 28 11 3 8 | | 0 | 10 14 37 | 10 4 10 |
| | Aυσ | 27. 6 33 | 26 19 48 | | JULY. | (25 8 59 | 25 15 46 |
| 1 | SEPT | 25 19 17 | 25 6 7 | | Aug | 23 21 43 | 24 3 12 |
| | Oct | 25 8 1 | 24 19 10 | | SEPT | 22 10 27 | 22 13 48 |
| | Nov | 23 20 45 | 23 11 2 | | Ocr | 21 23 11 | 22 0 11 |
| | DEC | 23, 9 29 | 23 5 7 | ! | Nov | 20 11 55 | 20 10 48 |
| | | | 00 0 10 | | DEC | 20 0 89 | 19 21 37 |
| 798. | JAN | 21 22 14 | 22 0 13 | | | | |
| u. | _ 0 | 5 16 36 | 5 18 54 | 801. | JAN | 18 13 24 | 18 8 56 |
| | FEB | 20 10 58 | 20 18 44 | c. | FEB | 17 2 8 | 16 20 48 |
| 17 5 4 | MAR | 21 23 42 | 22 11 21 | 16 22 30 | Mar | 18 14 52 | 18 9 15 |
| | APRIL | 20 12 26 | 21 1 12 | | APRIL | 17 8 86 | 16 22 48 |
| | MAY . | 20 1 10 | 20 12 16 | | MAY . | 16 16 20 | 16 18 21 |
| | JUNE. | 18 13 54 | 18 21 7 | | June . | 15 5 4 | 15 4 36 |
| | JULY. | 18 2 38 | 18 4 44 | l i | July . | 14 17 48 | 14 19 58 |
| | 0 | 1 21 0 | 1 14 40 | | Aug | 18 6 82 | 18 10 51 |
| | AUG | 16 15 22 | 16 12 14 | | SEPT | 11 19 16 | 12 0 48 |
| | SEPT. | 15. 4 6 | 14 20 33 14 6 28 | | Oct | 11 8 0 | 11 18 47 |
| | Nov. | 14 16 50 13 5 34 | 14 6 28 12 18 27 | ' | Nov | 9 20 44 | 10 1 54 |
| | _ | 13 5 34 12 18 18 | 12 18 27 | | DEC | 9 9 28 | 9 18 22 |
| | DEC | 12 10 10 | 12 0 40 | | | | |
| 799. | JAN | (11 7 2 | 11 0 51 | 802. | JAN. | 7 22 12 | 8 0 14 |
| F. | 0 | 26 1 24 | 26 10 42 | в. | FEB | 6 10 56 | 6 10 81 |
| | FEB | 9 19 46 | 9 18 20 | 17 4 19 | MAR | 7 23 40 | 7 20 82 |
| 17 10 53 | MAR | 11 8 30 | 11 12 4 | | APRIL | 6 12 24 | 6 6 42 |
| | APRIL | 9 21 14 | 10 4 52 | | MAY . | 6 1 8 | 5 17 47 |
| | MAY . | 9 9 58 | 9 19 51 | | 0 | 20 19 80 | 21 5 27 |
| | JUNE . | 7 22 42 | 8 8 32 | | JUNE. | 4 18 52 | 4 6 19 |
| 1 | JULY . | 7 11 26 | 7 19 10 | | JULY . | 4 2 36 | 8 20 82 |
| | . 0 | 22 5 48 | 21 17 48 | | Aug | 2 15 20 | 2 12 14 |
| | Aug | 6, 0 10 | 6 4 23 | 1 | Que- | 1 4 4 | 1 4 89 |
| | SEPT | 4 12 54 | 4 13 6 | | Sept | 30 16 48 | 80 21 0 |
| | Ocr | 4 1 38 | 3 22 11 | | Oct | 80 5 82 | 80 12 82 |
| | Nov | 2 14 22 | 2 8 12 | | 0 | ∫18 28 54 | 18 12 11 |
| | DEC. | $\int 2.36$ | 1 19 28 | | Nov | 28 18 16 | 29 2 45 |
| | DEG. | (31,15 50 | 31 8 6 | | DEC | 28 7 0 | 28 15 28 |
| | 1 | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|--|-----------------------------|
| A.D. 803. | | d. h. m. | d. h. m. | A.D. 806. | | d. h. m. | d. h. m. |
| March. | JAN | 26 19 45 | 27 2 36 | D. | JAN | 23 10 55 | 23 19 16 |
| d. h. m. | FEB | 25 8 29 | 25 12 20 | Manah | FEB | 21 23 39 | 22 12 15 |
| 17 10 8 | MAR | 26 21 13 | 26 21 3 | March. $d. h. m.$ | 0 | § 8 18 1 | 8 13 16 |
| | APRIL | 25 9 57 | 25 5 25 | 17 3 34 | MAR | 23 12 23 | 24 2 18 |
| | 0 | ſ10 4 19 | 10 15 43 | | APRIL | 22 1 7 | 22 13 19 |
| | MAY. | 24 22 41 | 24 14 22 | | MAY . | 21 13 51 | 21 21 53 |
| | JUNE . | 23 11 25 | 23 0 52 | | June . | 20 2 35 | 20 5 2 |
| | JULY. | 23 0 9 | 22 13 35 |) | JULY. | 19 15 19 | 19 11 49 |
| | Aug | 21 12 53 | 21 4 45 | | Aug | 18 4 3 | 17 19 23 |
| | SEPT | 20 1 37 | 19 21 54 | ı | 0 | $\int 1 22 25$ | 2 1 33 |
| | Oct | 19 14 21 | 19 15 59 | | SEPT | 16 16 47 | 16 4 40 |
| | 0 | 3 8 43 | 3 0 5 | | Oct | 16 5 31 | 15 16 24 |
| | Nov. | 18 3 5 | 18 9 46 | | Nov | 14 18 15 | 14 6 54 |
| 1 | DEC | 17 15 49 | 18 2 9 | 1 | DEC | 14 6 59 | 13 23 57 |
| | | | | | _ | | 10 10 00 |
| 201 | JAN | 10 4 94 | 16 16 21 | 807. | JAN | 12 19 44 | 12 18 36 |
| 804. G.F. | FEB. | 16 4 34 | 15 4 8 | €. | FEB | \\\ 11 8 28 | 11 13 26 |
| | MAR. | | 15 13 45 | | 0 | 26 2 50 | 26 3 54 |
| 16 15 57 | APRIL | 1 | 18 21 45 | 17 9 23 | MAR. | 12 21 12 | 13 7 0 |
| | MAY | | 13 5 0 | | APRIL | 11 9 56 | 11 22 12 |
| | JUNE | 1 | 11 12 29 | | MAY . | 10 22 40 | 11 10 37 |
| 1 | July | | 10 21 19 | | JUNE . | 9 11 24 | 9 20 29 9 4 43 |
| | Aug. | | 9 8 29 | | JULY. | 1 1 1 | |
| 1 | SEPT. | | 7 22 34 | 1 | Aug. | $\begin{cases} 7 & 12 & 52 \\ 22 & 7 & 14 \end{cases}$ | |
| | Oct. | 7 23 10 | | | SEPT. | | |
| | Nov. | | | | OCT. | | |
| 1 | DEC. | | | 11 | Nov. | 1 | |
| | DEC. | . 0 0 00 | 0 0 0 0 | | DEC. | | |
| | | | | | DEG | 0 10 10 | |
| 805. | JAN. | | | 808. | T | (2 4 3 | 2 1 20 43 |
| K. | FEB. | 1 | | B.A. | Jan. | . 31 17 1 | 6 31 13 27 |
| 16 21 4 | MAR. | 1 | 1 | | FEB. | | |
| | Apri | | 1 | |) TVT | | 0 1 6 56 |
| | MAY | 1 | | 11 | 2 Mar. | · \ \ \ 30 18 4 | |
| | June | . R | 2 1 4 59 | - 11 | APRII | 29 7 2 | - |
| | | (80 17 4 | | 11 | MAY | . 28 20 1 | 1 |
| | July | 00 40 4 | | 11 | JUNE | 1 | 1 |
| | Aug. | 1 | 1 | 11. | July | | 1 |
| | 0 | 12 13 8 | | - 13 | Aug. | 1 | |
| | SEPT | | 1 | - 11 | SEPT. | 1 | 8 23 21 42 |
| | Oct. | . 26 20 4 | | - 11 | Oct. | 1 | 1 |
| | Nov. | 1 | | 11 | Nov. | 1 | |
| | DEC. | . 24 22 1 | $0 \mid 25 \mid 0 \mid 1$ | * | DEC. | . 21 13 9 | 20 21 6 (|
| | | | | 1 | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl. | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|------------|-----------------------------------|------------------------------------|
| A.D. 809. | | d. h. m. | d. h. m. | A.D. 812. | | d. h. m. | d. h. m. |
| G. | 0 | (5 7 43 | 5 19 26 | D.C. | JAN | 17 17 15 | 18 1 36 |
| 1 | JAN | 120 2 5 | 19 19 7 | March. d. h. m. | FEB | 16 5 59 | 16 11 52 |
| d. h . m . | FEB. | 18 14 49 | 18 9 25 | 16 14 27 | MAR | 16 18 43 | 16 20 51 |
| 16 21 1 | MAR. | 20 3 33 | 20 0 42 | | APRIL | 15 7 27 | 15 5 5 |
| | APRIL | 18 16 17 | 18 16 34 | | MAY . | 14 20 11 | 14 13 25 |
| | MAY. | 18 5 1 | 18 8 21 | | JUNE. | 13 8 55 | 12 22 53 |
| | JUNE . | 16 17 45 | 16 23 19 | | JULY. | 12 21 39 | 12 10 22 |
| | 0 | ſ 1 12 7 | 1 3 44 | | Aug | 11 10 23 | 11 0 21 |
| | JULY. | 16 6 29 | 16 13 1 | | SEPT | 9 23 7 | 9 16 42 |
| 1 | Aug | 14 19 13 | 15 1 19 | | Ост | (9 11 51 | 9 10 39 |
| | SEPT | 13 7 57 | 13 12 32 | | 0 | 24 6 13 | 23 23 4 |
| | Ост | 12 20 41 | 12 23 13 | | Nov | 8 0 35 | 8 4 58 |
| | Nov | 11 9 25 | 11 9 50 | | DEC | 7 18 19 | 7 22 22 |
| | DEC | $\{10\ 22\ 9\}$ | 10 20 38 | | | | |
| | 0 | (25 16 31 | 25 21 47 | 813. | JAN | 6 2 3 | 6 18 47 |
| 810. | JAN | 9 10 53 | 9 7 37 | в. | FEB | 4 14 47 | 5 2 44 |
| F. | FEB. | 7 23 37 | 7 18 56 | 16 20 16 | MAR. | 6 3 31 | 6 18 16 |
| 17 2 50 | MAR | 9 12 21 | 9 6 46 | | APRIL | § 4 16 15 | 4 21 50 |
| | APRIL | 8 1 5 | 7 19 30 | | 0 | 19 10 37 | 19 14 8 |
| | MAY . | 7 13 49 | 7 9 18 | | MAY. | 4 4 59 | 4 5 12 |
| | JUNE. | (6 2 33 | 6 0 9 | | JUNE. | 2 17 43 | 2 12 19 |
| | 0 | 20 20 55 | 20 20 32 | | JULY. | $\int_{0.1}^{2} 627$ | 1 20 16 |
| | July . | 5 15 17 | 5 15 34 | | | \81·19 11 | 31 6 10 |
| | Aug | 4 4 1 | 4 6 55 | | Aug | 30 7 55 | 29 18 48 |
| | Sept | 2 16 45 | 2 21 37 | | SEPT | 28 20 39 | 28 10 27 |
| | Oct | § 2 5 29 | 2 11 23 | | 0 | 18 15 1 | 13 15 7 |
| | 001. | \31 18 13 | (1 0 11 | | Ocr | 128 9 23 26 22 7 | 28 4 83 26 28 54 |
| | Nov | 30 6 57 | 80 12 9 | | Nov Dec | 26 10 51 | 26 18 52 |
| | 0 | $\int 15 \ 1 \ 19$ | 14 20 52 | | DEC. | 20 10 51 | 20 10 02 |
| | Dec | 29 19 41 | 29 23 19 | 814. | JAN | 24 23 36 | 25 11 56 |
| 811. | JAN | 28 8 26 | 28 9 48 | A. | FEB | 23 12 20 | 21 2 10 |
| E. | FEB | 26 21 10 | 26 19 42 | 17 2 5 | MAR | 25 1 4 | 25 13 27 |
| 17 8 39 | MAR | 28 9 54 | 28 5 27 | | 0 | (8 19 26 | 8 15 22 |
| | APRIL | 26 22 38 | 26 15 43 | | APRIL | 23 13 48 | 28 22 14 |
| | MAY . | 26 11 22 | 26 3 15 | | May . | 23 2 32 | 28 5 24 |
| | 0 | f10 5 44 | 10 13 11 | | JUNE . | 21 15 16 | 21 12 2 |
| | June . | 25 0 6 | 24 16 31 | | JULY . | 21 4 0 | 20 19 18 |
| | JULY. | 24 12 50 | 24 7 34 | | Aug | 19 16 44 | 19 4 8 |
| | Aug | 23 1 34 | 22 23 51 | | SEPT | 18 5 23 | 17 15 27 |
| | SEPT | 21 14 18 | 21 16 36 | | 0 | £ 28 50 | 8 5 8 |
| Į | Oct. | 21 3 2 | 21 8 54 | | Oct | 17 18 12 | 17 5 54 |
| | Nov. | 19 15 46 | 20 0 4 | | Nov | 16 6 56 | 15 23 12 |
| | DEC. | 19 4 30 | 19 13 42 | | DEC. | 15 19 40 | 15 18 21 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|----------------|----------------------------|--------------|------------------------------------|------------------------------------|
| A.D. 815. | | d. h. m. | d. h. m. | A.D. 818. | | d. h. m. | d. h. m. |
| G. | JAN | 14 8 25 | 14 13 51 | C. | JAN | (10 23 35 | 10 16 43 |
| March. | FEB | 12 21 9 | 13 7 57 | | 0 | t 25 17 57 | 26 6 52 |
| d. h. m. 7 54 | MAR | 14 9 53 | 14 23 27 | March. | FEB | 9 12 19 | 9 6 11 |
| | APRIL | 12 22 37 | 13 11 53 | d. h. m. 17 1 20 | MAR. | 11 1 3 | 10 20 42 |
| | MAY . | 12 11 21 | 12 21 32 | | APRIL | 9 13 47 | 9 12 4 |
| | June . | 11 0 5 | 11 5 16 | | MAY . | 9 2 31 | 9 3 48 |
| | JULY. | 10 12 49 | 10 12 9 | | JUNE . | 7 15 15 | 7 19 13 |
| | Aug | 9 1 88 | 8 19 20 | | JULY. | (7 3 59 | 7 9 43 |
| | SEPT. | 7 14 17 | 7 3 47 | | 0 | 21 22 21 | 21 11 32 |
| | Oct | 7 3 1 | 6 14 19 | | AUG | 5 16 43 | 5 22 54 |
| | Nov. | 5 15 45 | 5 3 28 | | SEPT | 4 5 27 | 4 10 53 |
| | DEC | 5 4 29 | 4 19 17 | | Ocr | 3 18 11 | 3 22 3 |
| | | • | | | Nov | 2 6 55 | 2 8 53 |
| | | | 1 | | | (1 19 39 | 1 19 42 |
| 816. | JAN | 8 17 18 | 3 13 10 | | DEC | 31 8 23 | 1 |
| F.E. | FEB | 2 5 57 | 2 7 55 | | 1 | (| |
| | 0 | 17 0 19 | 17 3 26 | 819. | Т | 29 21 7 | 29 17 31 |
| 16 18 48 | MAR. | 2 18 41 | 3 2 7 | B. | JAN | 28 9 51 | 28 4 48 |
| | A | (1 7 25 | 1 18 29 | | FEB. | 29 22 35 | 29 16 44 |
| | APRIL | (80 20 8 | (1 8 15 | 17 7 9 | Mar. | 28 11 19 | |
| | MAY | . 80 8 59 | (30 19 21 | | APRIL | | |
| | JUNE | . 28 21 37 | 29 4 28 | | MAY . | | 1 |
| | July | . 28 10 21 | 28 12 18 | | JUNE . | | |
| | Aug. | . 26 28 8 | 26 20 8 | | JULY . | | |
| | SEPT. | . 25 11 49 | 25 4 50 | 1 | AUG. | | |
| | Ocr. | . 25 0 3 | 3 24 15 1 | | 1.0 | 1 | 111 |
| | Nov. | . 28 13 1 | 7 23 3 5 | | Ocr. Nov. | | |
| | DEC. | . 23 2 | 1 22 17 8 | | | 00 17 1 | |
| | | | | | DEC. | . 20 17 1. | 20 22 1 |
| 817. | JAN. | . 21 14 4 | 6 21 8 58 | 820. | Jan. | . 19 5 5 | 6 19 9 |
| D. | 0 | (59 | 8 5 19 15 | | FEB. | | 0 17 19 |
| | FEB. | . 120 88 | 0 20 1 55 | 16 12 58 | | | 4 18 4 3 |
| 16 19 89 | | سمديد" ا | 4 21 19 10 | | APRI | 40.00 | 8 16 14 1 |
| 20 20 0 | APRI | | 8 20 11 40 |) | MAY | . (16 8 5 | 2 16 0 4 |
| | May | | 2 20 2 38 | 3∦ | 0 | . 12 | 4 31 12 4 |
| | JUNE | 1 40 00 | 6 18 15 24 | <u> </u> | June | . 14 21 8 | 6 14 13 |
| | July | 1 | 0 18 2 21 | L | July | | 20 14 3 |
| | 0 | (1 18 8 | 1 0 50 | 0 | Aug. | 40.00 | 4 12 19 |
| | Aug. | 1340 | | 2 | SEPT. | . مستدا | 18 11 11 1 |
| | SEPT | 1 | 8 14 21 14 | 1 | Oct. | | 32 11 4 |
| | Oct. | | | 4 | Nov. | | 16 9 20 |
| | Nov. | | | 1 | 0 | 24 7 | 38 23 20 |
| | DEO. | | | 9 | DEC. | . 9 2 | 0 9 11 |
| 1 | 22.00 | | | - A | | 1 | 1 |

| Mean Vernal Equinox, | Month. | Mean New Moon. (O Full Ecl. | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|-----------------------------------|----------------|----------------------------|--------|------------------------------------|--|
| A.D. 821. | | d. h. m. | d. h. m. | A.D. 824. | | d. h. m. | d. h. m. |
| F. 7/ | JAN. | 7 14 45 | 8 0 15 | C.B. | JAN | 5 5 54 | 5 8 7 |
| March. $d.$ $h.$ $m.$ | FEB | 6 3 29 | 6 11 14 | March. | FEB. | 3 18 38 | 4 3 1 |
| 16 18 47 | MAR. | 7 16 13 | 7 20 38 | d. h. m. 16 12 13 | | 6 4 7 22 | 4 19 50 |
| | APRIL | 6 4 57 | 6 4 56 | 10 12 10 | 0 | 19 1 44 | 18 21 9 |
| | MAY. | (5 17 41 | 5 12 54 | | APRIL | 2 20 6 | 8 9 45 |
| | 0 | 1 20 12 3 | 20 22 34 | | | (2 8 50 | 2 20 40 |
| | JUNE. | 4 6 25 | 3 21 31 | | MAY. | 31 21 34 | |
| | JULY. | 3 19 9 | 3 7 47 | | JUNE. | 30 10 18 | $\begin{cases} 1 & 5 & 14 \\ 30 & 12 & 18 \end{cases}$ |
| | | (2 7 53 | 1 20 28 | | JULY. | 29 23 2 | 29 19 28 |
| | Aug | 31 20 37 | 31 11 48 | | Aug. | 28 11 46 | 28 3 18 |
| | SEPT | 30 9 21 | 30 5 15 | | 0 | (12 6 8 | 12 8 50 |
| | Oct | 29 22 5 | 29 23 45 | | SEPT | 27 0 30 | 26 12 50 |
| | | (13 16 27 | 13 8 52 | | Ост. | 26 18 14 | 26 0 48 |
| | Nov | 28 10 49 | 28 17 57 | | Nov. | 25 1 58 | 24 15 14 |
| | DEC | 27 23 33 | 28 10 35 | | DEC | 24 14 42 | 24 8 5 |
| 822. | Jan | 26 12 17 | 27 0 48 | 825. | JAN. | 23 8 27 | 28 2 26 |
| E. | FEB | 25 1 1 | 25 12 26 | A. | FEB. | 21 16 11 | 21 20 58 |
| 17 0 36 | MAR | 26 13 45 | 26 21 45 | | 0 | (8 10 33 | 8 12 10 |
| | APRIL | 25 2 29 | 25 5 28 | 16 18 2 | MAR. | 28 4 55 | 28 14 9 |
| , | MAY . | 24 15 13 | 24 12 27 | -0 10 1 | APRIL | 21 17 39 | 22 5 12 |
| | JUNE. | 23 3 57 | 22 19 45 | | MAY. | 21 6 28 | 21 17 87 |
| | JULY. | 22 16 41 | 22 4 33 | | JUNE. | 19 19 7 | 20 8 89 |
| | Aug | 21 5 25 | 20 15 46 | | JULY. | 19 7 51 | 19 12 8 |
| | SEPT | 19 18 9 | 19 6 0 | | Aug. | 17 20 85 | 17 20 5 |
| | Ост | 19 6 53 | 18 23 6 | | 0 | 1 14 57 | 1 9 14 |
| | 0 | 3 1 15 | 3 0 36 | | ا سا | 16 9 19 | 16 4 27 |
| | Nov | 17 19 37 | 17 18 7 | | Ocr. | 15 22 8 | 15 14 0 |
| | DEC | 17 8 21 | 17 13 34 | | Nov. | 14 10 47 | 14 1 10 |
| | | | | | Dec | 18 28 81 | 18 14 12 |
| 823. | JAN | 15 21 6 | 16 7 46 | | | | |
| D. | FEB | 14 9 50 | 14 23 27 | 826. | JAN. | 12 12 16 | 10 # ^ |
| 17 6 25 | MAR | 15 22 34 | 16 12 6 | G. | FEB. | | 12 5 0 |
| | APRIL | 14 11 18 | 14 21 56 | 16 23 51 | MAR. | 11 1 0 12 18 44 | 10 21 15 |
| | MAY . | 14 0 2 | 14 5 43 | 20 01 | APRIL | 11 2 28 | 12 14 12 |
| | JUNE. | 12 12 46 | 12 12 26 | ĺ | Max . | | 11 6 58 |
| | JULY. | 12 1 30 | 11 19 14 | 1 | JUNE . | 9 8 56 | 10 22 40 |
| | Aug. | 10 14 14 | 10 3 10 | | JULY . | 8 16 40 | 9 12 86 |
| | SEPT. | 9 2 58 | 8 13 17 | | Aug. | 7 5 24 | |
| | | - | 24 3 0 | | SEPT. | 5 18 8 | |
| | Oct. | 8 15 42 | 8 2 16 | | Oct. | 5 6 52 | 5 20 87 |
| | Nov. | 7 4 26 | 6 18 15 | | Nov. | 3 19 36 | |
| - | Dec. | 6 17 10 | 6 12 39 | | DEC. | 8 8 20 | |
| | | | | | | 0 0 20 | 8 8 0 |

| March. d. h. m. d. h. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|--|----------------------------|--------|------------------------------|------------------------------------|----------------------------|--------|------------------------------|------------------------------------|
| March. d. h. m. 17 5 40 March. d. h. m. 17 5 40 March. d. h. m. 18 28 1 28 28 15 10 10 10 10 10 10 10 10 10 10 10 10 10 | 827. | | | | 830. | | d. h. m. | d. h. m. |
| March. d. h. m. 17 5 40 Mar 28 2 28 28 4 5 5 3 | | JAN. O | 16 15 26 | | March. | | 1 | 28 10 16 |
| A | March | E'ren | | | | | | |
| MAY . 26 8 54 25 20 4 APRIL | d. h. m. | | | | | | 26 15 10 | 26 12 41 |
| MAY . 29 12 44 29 14 48 JUNE . 28 1 28 28 5 53 O | 11 5 40 | MAR | 17 | | | | | 25 20 41 |
| June. 28 1 24 29 14 48 June. 28 1 28 28 5 5 3 O (12 19 50 12 11 7) July. 26 2 56 26 8 45 Sept. 24 15 40 24 20 34 Oct. 22 17 8 22 18 43 Dec. 22 5 52 22 5 3 Nov. 22 17 8 22 18 43 Dec. 22 5 52 22 5 3 E.D. O (6 0 15 6 5 44) 20 18 37 20 16 23 Feb. 19 7 21 19 3 16 Mar. 19 20 5 19 14 31 April 18 8 49 18 2 38 May. 17 21 38 17 16 0 June. 16 10 17 16 6 37 O July. 16 10 17 16 6 37 O July. 11 1 57 11 8 48 Dec. 12 18 18 12 19 28 Nov. 11 1 157 11 8 48 Dec. 25 9 8 25 4 55 O (7) (10 4 23 9 18 4) Sept. 10 14 41 10 21 2 O (7) (10 4 23 9 18 4) Dec. 26 2 56 26 26 26 34 Nov. 11 1 57 11 8 48 Dec. 16 10 17 16 6 37 O July. 18 10 17 16 6 37 O July. 18 10 17 16 6 37 O July. 18 10 11 1 1 57 11 8 48 Dec. 17 16 10 7 18 29 Nov. 11 1 7 18 18 12 19 28 Nov. 11 1 7 18 48 Dec. 26 6 2 56 2 6 2 56 2 6 2 5 6 2 6 2 5 6 2 6 2 | | | 80 0 0 | 29 23 14 | | | | |
| Signature Sign | | | | | | | | |
| Sept. 12 15 50 12 11 7 7 12 13 14 12 12 13 15 14 13 14 10 12 12 13 14 10 15 14 14 10 15 14 14 10 15 14 14 10 15 14 14 10 15 14 14 10 15 14 14 10 15 14 14 14 14 14 14 14 | | | | 0 00 | | _ | | |
| Aug. 26 2 56 28 8 45 Sept. 24 15 40 24 20 34 Oct. 24 4 24 24 7 47 Nov. 22 17 8 22 18 43 Dec. 22 5 52 22 5 35 An. 6 6 0 15 6 5 44 20 18 87 20 16 23 Feb. 19 7 21 19 8 16 16 11 29 Mar. 19 20 5 19 14 31 April 18 8 49 18 2 38 May 17 21 83 17 16 0 June 16 10 17 16 6 87 Ot 15 23 1 15 22 6 Aug. 14 11 45 14 13 49 Sept. 13 0 29 18 5 5 Oct. 12 13 13 12 19 28 Nov. 11 1 57 11 8 48 Dec. 25 5 9 8 25 4 55 Oct. 12 13 13 12 19 28 Nov. 11 1 57 11 8 48 Dec. 26 2 6 2 56 June 27 16 10 7 18 9 3 15 Oct. 12 13 13 12 19 28 Nov. 11 1 57 17 88 7 13 9 May 7 6 22 6 22 56 June 27 16 10 7 18 9 3 55 Oct. 20 18 28 20 28 June 27 16 20 28 June 27 16 20 20 28 June 27 17 28 20 28 June 27 18 20 20 28 June 27 18 20 20 28 June 27 18 20 20 28 June 27 18 20 20 28 June 27 29 18 2 6 52 Oct. 28 20 34 8 14 15 Sept. 29 18 2 6 52 Oct. 29 18 2 6 52 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 28 20 26 Oct. 20 18 38 31 16 57 | | | 12 | | | | | 20 18 17 |
| Sept. 24 15 40 24 20 34 Oct. 24 4 24 24 7 47 Nov. 22 17 8 22 18 43 Dec. 22 5 52 22 5 35 Oct. 12 18 37 20 16 23 Feb. 19 7 21 19 3 16 Oct. 12 93 17 16 0 June. 16 10 17 16 6 37 Oct. 12 18 18 12 12 25 Oct. 12 18 18 12 12 25 Oct. 12 18 18 12 12 25 Oct. 12 18 18 12 12 25 Oct. 12 18 18 12 12 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 12 22 28 Oct. 12 18 18 18 19 12 52 Oct. 15 24 17 4 55 Oct. 12 18 18 17 4 55 Oct. 12 18 18 12 18 24 Oct. 14 1 1 27 18 18 18 Oct. 15 22 11 16 18 Oct. 16 11 12 18 Oct. 16 11 12 18 Oct. 17 11 15 17 12 21 Oct. 18 11 12 12 12 12 Oct. 18 12 12 12 12 12 Oct. 18 12 12 12 12 12 Oct. 18 | | | | | | 0 | (4 13 56 | 4 7 47 |
| OCT 24 4 24 24 7 47 Nov 22 17 8 22 18 43 DEC 22 5 52 22 5 35 OC | | | | | | Nov | (19 8 18 | 19 12 59 |
| B28. E.D. Color | | | | | | DEC | 18 21 2 | 19 6 40 |
| 828. B28. B29. C | | Nov | 22 17 8 | 22 18 43 | 831 | Tan | 17 0 47 | 17 00 19 |
| 828. | | DEC | 22 5 52 | 22 5 35 | | | | |
| E.D. Fee 19 7 21 19 8 16 16 18 19 19 20 16 23 | | | | | 17 4 55 | | | - 1 |
| 16 11 29 | | | | | | APRIL | | 16 5 39 |
| APRIL | | | | | | | (30 18 21 | 80 20 47 |
| MAY . 17 21 33 17 16 0 JUNE . 16 10 17 16 6 37 O | 10 11 20 | | 1 | | | | | |
| Sure 16 10 17 16 6 87 | | | | | | | | 13 19 40 |
| O JULY. \begin{array}{c c c c c c c c c c c c c c c c c c c | | JUNE . | 16 10 17 | 16 6 37 | | | | j |
| Sury 18 18 18 18 18 18 18 1 | | 0 | § 1 4 39 | 1 4 0 | | _ | | 1 |
| SEPT. 18 0 29 18 5 5 OCT. 12 18 18 12 19 28 Nov. 11 1 57 11 8 48 DEC. \(\begin{array}{c c c c c c c c c c c c c c c c c c c | | | 1 | 15 22 6 | | _ | | |
| Oct 12 13 13 12 19 28 Nov 11 1 57 11 8 48 Dec \{ 10 14 41 10 21 2 \\ 0 \{ 25 9 8 25 4 55 \\ 0 \{ 26 9 8 14 \\ 0 \{ 7 16 10 7 18 27 \\ 16 17 18 Mar 9 4 54 9 3 55 \\ APRIL 7 17 38 7 18 9 \\ Max . 7 6 22 6 22 56 \\ June . \{ 5 19 6 5 10 5 \\ 0 \{ 20 18 28 20 20 28 \\ July . 5 7 50 4 23 10 \\ Aug 3 20 34 3 14 15 \\ Sept 2 9 13 2 6 52 \\ Oct \{ 12 2 2 2 0 6 \\ 81 10 46 81 16 57 \end{array}\) | | | | | | 0 | 24 22 45 | 24 23 44 |
| Nov 11 1 57 11 8 48 Dec \begin{array}{c c c c c c c c c c c c c c c c c c c | | | | | | Nov | 8 17 7 | 8 12 23 |
| B29. Jan 9 3 26 9 8 14 16 10 44 Mar 5 20 4 6 10 20 6 16 17 18 Mar 9 4 54 9 3 55 April 7 17 38 7 18 9 May . 7 6 22 6 22 56 June . {5 19 6 5 10 5 0 20 18 28 20 20 28 July . 5 7 50 4 23 10 Aug 3 20 34 8 14 15 Sept 2 9 18 2 6 52 Oct {1 22 2 2 0 6 81 10 46 81 16 57 } | | | | | | Dec | 8 5 51 | 8 7 53 |
| 829. Jan 9 8 26 9 8 14 | | | ∫10 14 41 | 10 21 2 | 832. | JAN | 6 18 36 | 7 2 56 |
| C. Feb 7 16 10 7 18 27 16 17 18 MAR 9 4 54 9 3 55 APRIL 7 17 38 7 18 9 MAY . 7 6 22 6 22 56 JUNE . {5 19 6 5 10 5} O {20 18 28 20 20 28} JULY . 5 7 50 4 23 10 AUG 3 20 34 8 14 15 Sept 2 9 18 2 6 52 Oct {1 22 2 2 0 6} 81 10 46 81 16 57 | | | | | G.F. | FEB | 5 7 20 | 5 19 58 |
| Mar. 9 4 54 9 3 55 O 19 3 10 18 22 20 | 4 | _ | | | 16 10 44 | | | 1 |
| APRIL 7 17 38 7 18 9 MAY . 7 6 22 6 22 56 JUNE . 5 19 6 5 10 5 O {20 18 28 20 20 28} JULY . 5 7 50 4 23 10 AUG 3 20 34 8 14 15 SEPT 2 9 18 2 6 52 OCT {1 22 2 2 0 6} 81 10 46 81 16 57 MAY . 3 21 32 4 5 4 JUNE . 2 10 16 2 12 55 JUNE . 3 21 32 4 5 4 JUNE . 3 21 32 4 5 4 JUNE . 2 10 16 2 12 55 AUG 30 0 28 29 11 4 SEPT 28 18 12 27 23 2 OCT {28 1 56 27 13 56 Nov 26 14 40 26 7 19 | | | | 1 | : | | | 1 |
| MAY . 7 6 22 6 22 56 JUNE . 5 19 6 5 10 5 O {20 18 28 20 20 28} JULY . 5 7 50 4 23 10 AUG 3 20 34 8 14 15 SEPT 2 9 18 2 6 52 OCT {1 22 2 2 0 6} 81 10 46 81 16 57 JUNE . 2 10 16 2 12 5 JULY . 5 10 6 5 10 5 AUG 30 0 28 29 11 4 SEPT 28 18 12 27 28 2 OCT {1 22 2 2 0 6} 81 10 46 81 16 57 JUNE . 2 10 16 2 12 5 AUG 30 0 28 29 11 4 SEPT 28 18 12 27 28 2 OCT {28 1 56 27 13 5 Nov 26 14 40 26 7 1 | 70 71 10 | | | | | | | |
| June . { 5 19 6 5 10 5 | | | | | | _ | | |
| O {20 18 28 20 20 28 } July . 5 7 50 4 23 10 Aug 8 20 34 8 14 15 Sept 2 9 18 2 6 52 Oct {1 22 2 2 0 6 81 10 46 81 16 57 } July . 6 1 20 18 28 20 20 28 Aug 8 14 15 Sept 28 13 12 27 28 28 16 17 18 18 18 20 Cot {28 1 56 27 13 56 27 13 56 27 18 56 27 18 56 27 18 56 27 18 56 27 18 56 27 18 56 27 18 56 27 18 56 27 18 56 27 18 56 28 18 12 26 7 18 56 28 18 18 18 28 28 28 28 28 28 28 28 28 28 28 28 28 | | | | | | _ | | 1 19 30 |
| Aug. 8 20 34 8 14 15 Sept. 28 18 12 27 23 2 Oct. 1 22 2 2 0 6 81 10 46 81 16 57 Sept. 28 13 12 27 23 2 Oct. 28 1 56 27 18 50 Nov. 26 14 40 26 7 18 | | 0 | 20 18 28 | 20 20 28 | | July. | ו כו | 31 2 47 |
| Sert. 2 9 18 2 6 52 Oct. 2 9 18 2 6 52 Oct. 2 9 18 2 6 52 Nov. 2 6 14 40 26 7 18 | | July. | 5 7 50 | 4 23 10 | | Aug | 30 0 28 | 29 11 48 |
| Oct { 1 22 2 2 0 6 81 10 46 81 16 57 Oct 28 1 56 27 18 5 Nov 26 14 40 26 7 1 | | | | | | SEPT | | |
| OCT 81 10 46 81 16 57 Nov 26 14 40 26 7 1 | | SEPT | | | | |) | 18 13 23 |
| | | Ocr | 12 | | | | | |
| | | Nov | | | | 1 | | |
| Dec. 29 12 14 29 22 25 | | | | | | LUEU. | 40 0 24± | 2U 2 2U |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 833. | | d. h. m. | d. h. m. | A.D. 836. | | d. h. m. | d. h. m. |
| E. 7 | JAN | 24 16 8 | 24 21 38 | B.A. | JAN | 22 7 18 | 22 1 15 |
| March. d. h. m. | FEB | 23 4 52 | 23 15 32 | 75 1 | 0 | 6 1 40 | 6 15 2 |
| 16 16 33 | MAR | 24 17 36 | 25 6 52 | March. d. h. m. | FEB | 20 20 2 | 20 14 11 |
| | 0 | (81158 | 8 6 12 | 16 9 59 | MAR | 21 8 46 | 21 4 5 |
| | APRIL | 23 6 20 | 23 19 12 | | APRIL | 19 21 30 | 19 18 55 |
| | MAY . | 22 19 4 | 23 4 50 | | MAY . | 19 10 14 | 19 10 19 |
| | JUNE . | 21 7 48 | 21 12 39 | | JUNE . | 17 22 58 | 18 1 42 |
| | JULY. | 20 20 32 | 20 19 43 | | July. | 17 11 42 | ∫17 16 25 |
| | AυG | 19 9 16 | 19 3 9 | | 0 | (164 | 81 19 1 |
| | SEPT | 17 22 0 | 17 11 53 | | Aug | 16 0 26 | 16 6 6 |
| | Ocr | 17 10 44 | 16 22 40 | | SEPT | 14 13 10 | 14 18 41 |
| | Nov | 15 23 28 | 15 11 54 | | Ост | 14 1 54 | 14 6 25 |
| | DEC | 15 12 12 | 15 3 34 | | Nov | 12 14 38 | 12 17 41 |
| | | | | | DEC | 12 3 22 | 12 4 89 |
| 834. | JAN | 14 0 57 | 13 21 9 | | | | |
| D. | FEB | (12 13 41 | 12 15 29 | 837. | JAN | 10 16 7 | 10 15 26 |
| | 0 | 27 8 3 | 27 11 51 | G. | FEB. | 9 4 51 | 9 2 8 |
| 16 22 22 | MAR | 14 2 25 | 14 9 20 | 16 15 48 | MAR. | 10 17 35 | 10 12 48 |
| | APRIL | 12 15 9 | 13 1 29 | 10 10 40 | APRIL | 9 6 19 | 9 0 7 |
| | MAY. | 12 3 53 | 12 15 12 | | MAY. | 8 19 3 | 8 12 85 |
| | June . | 10 16 37 | 11 2 24 | | JUNE. | 7 7 47 | 7 2 26 |
| | JULY. | 10 5 21 | 10 11 41 | | JULY. | 6 20 31 | 6 17 82 |
| | Aug. | 8 18 5 | 8 19 57 | | Aug. | 5 9 15 | 5 9 21 |
| | SEPT | 7 6 49 | 7 4 13 | | SEPT. | 3 21 59 | 4 1 9 |
| | Ocr. | 6 19 33 | 6 13 17 | | Oct. | 3 10 43 | 3 16 20 |
| | Nov | 5 8 17 | 4 23 42 | | Nov. | 1 23 27 | 2 6 28 |
| 1 | DEC | 4 21 1 | 4 11 48 | | 1.01. | (1 12 11 | 1 19 26 |
| | | | | İ | DEC | 31 0 55 | 81 7 12 |
| 835. | JAN | 3 9 46 | 3 1 37 | | | (02 0 00 | 02 |
| c. | FEB | (1 22 30 | 1 16 58 | 000 | ~ | 00 40 00 | 29 17 49 |
| | 0 | 16 16 52 | 17 3 41 | 838. F. | JAN | 29 13 89 28 2 28 | 28 8 24 |
| 17 4 11 | MAR. | 3 11 14 | 3 9 23 | 16 21 37 | FEB | 29 15 7 | 29 12 26 |
| | APRIL | 1 23 58 | 2 2 7 | 10 21 37 | MAR. | 28 8 51 | 27 21 85 |
| | | (1 12 42 | 1 18 21 | | APRIL | 27 16 35 | 27 7 45 |
| | MAY . | 31 1 26 | 31 9 12 | 17 | MAY . | (11 10 57 | 11 19 52 |
| | JUNE . | 29 14 10 | 29 22 15 | n it | JUNE. | 17 | 25 19 42 |
| | JULY. | 29 2 54 | 29 9 36 | 1 | JULY. | 25 18 3 | 25 9 48 |
| | 0 | (12 21 16 | 12 8 0 | | Aug. | 24 6 47 | 24 1 52 |
| | Aug | 27 15 38 | 27 19 47 | | SEPT. | 22 19 31 | 22 19 7 |
| | SEPT. | 26 4 22 | 26 5 30 | | OCT. | 22 19 51 | 22 19 7 |
| | Ост. | 25 17 6 | 25 15 24 | | Nov. | 20 20 59 | 21 5 8 |
| | Nov. | 24 5 50 | 24 1 56 | | | (5 15 21 | |
| - | DEC. | 23 18 34 | 23 13 12 | | DEC. | 20 9 43 | 5 5 15 20 20 2 |
| | } | | | | L EU | (20 9 45 | 20 20 2 |
| | | | | 0 | j. | I | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 839. | | d. h. m. | d. h. m. | A.D. 842. | | d. h. m. | d. h. m. |
| E. | JAN | 18 22 28 | 19 8 56 | Α. | JAN | 15 13 38 | 15 15 59 |
| March. $d. h. m.$ | FEB | 17 11 12 | 17 19 43 | March. $d. h. m.$ | FEB. | 14 2 22 | 14 10 39 |
| 17 8 25 | MAR | 18 23 56 | 19 4 47 | 16 20 52 | MAR. | (15 15 6 | 16 3 16 |
| | APRIL | 17 12 40 | 17 12 41 | | 0 | 30 9 28 | 30 4 55 |
| | MAY. | §17 1 24 | 16 20 18 | | APRIL | 14 3 50 | 14 17 3 |
| | 0 | ¹ 31 19 46 | (1 5 21 | | MAY. | 13 16 34 | 14 3 55 |
| | June . | 15 14 8 | 15 4 39 | | JUNE . | 12 5 18 | 12 12 33 |
| | July. | 15 2 52 | 14 14 47 | | JULY. | 11 18 2 | 11 19 57 |
| | Aug | 13 15 36 | 13 3 29 | | Aug | 10 6 46 | 10 3 13 |
| | SEPT | 12 4 20 | 11 18 58 | | SEPT | r 8 19 30 | 8 11 21 |
| | Ocr | 11 17 4 | 11 12 45 | 4 | 0 | 23 13 52 | 23 16 16 |
| | Nov | ∫10 5 48 | 10 7 37 | | Ocr | 8 8 14 | 7 21 9 |
| | 0 | 125 0 10 | 24 17 43 | | Nov | 6 20 58 | 6 9 12 |
| | DEC | 9 18 32 | 10 2 8 | | Dec | 6 9 42 | 5 23 39 |
| 840. | Jan | 8 7 17 | 8 18 56 | 843. | Jan | 4 00 07 | 4 16 16 |
| 30,C, | FEB. | 6 20 1 | 7 9 8 | 6. | FEB. | 4 22 27 | 4 16 16 3 10 10 |
| 16 9 14 | MAR. | 7 8 45 | 7 20 35 | 17 2 41 | MAR. | 3 11 11 (4 23 55 | 5 4 13 |
| 10 0 14 | APRIL | 5 21 29 | 6 5 37 | 11 2 41 | O . | 19 18 17 | 19 20 18 |
| | MAY. | 5 10 13 | 5 13 4 | | APRIL | 3 12 39 | 3 21 11 |
| | 0 | 20 4 85 | 20 7 54 | | MAY. | 3 1 23 | 3 12 7 |
| | JUNE . | 8 22 57 | 8 19 52 | | June . | 1 14 7 | 2 0 34 |
| | July. | 3 11 41 | 3 3 6 | | | (1 2 51 | 1 10 50 |
| | | 1 2 0 25 | 1 11 54 | | JULY. | 30 15 35 | 30 19 39 |
| | Aug. | 81 18 9 | 30 23 13 | | Aug | 29 4 19 | 29 4 1 |
| | SEPT | 80 1 53 | 29 13 37 | | 0 | (12 22 41 | 12 16 23 |
| | Ocr | 29 14 37 | 29 6 53 | | SEPT | 27 17 3 | 27 12 47 |
| | 0 | (18 8 59 | 18 9 26 | | Ocr | 27 5 47 | 26 22 39 |
| | Nov | 128 8 21 | 23 2 4 | | Nov | 25 18 31 | 25 9 56 |
| | DEC | 27 16 5 | 27 21 34 | | DEC | 25 7 15 | 24 22 49 |
| 841. | Jan | 26 4 49 | 26 15 44 | 844. | Jan | 28 19 59 | 23 13 14 |
| в. | FEB. | 24 17 33 | 25 7 19 | F.E. | FEB. | 22 8 43 | 22 4 54 |
| 16 15 8 | MAR. | 26 6 17 | 26 19 49 | 16 8 30 | MAR. | 22 21 27 | 22 21 18 |
| | APRIL | 24 19 1 | 25 5 29 | | APRIL | 21 10 11 | 21 13 42 |
| | MAY . | 24 7 45 | 24 13 9 | | MAY . | 20 22 55 | 21 5 15 |
| | JUNE . | 22 20 29 | 22 19 52 | | JUNE . | 19 11 39 | 19 19 18 |
| | JULY. | 22 9 13 | 22 2 46 | | JULY. | 19 0 23 | 19 7 38 |
| | Aug. | 20.21 57 | 20 10 53 | | AUG | 17 13 7 | 17 18 33 |
| | SEPT. | 19.10 41 | 18 21 11 | -1 | SEPT | 16 1 51 | 16 4 41 |
| | Oct. | 19 28 25 | 18 10 18 | | Oct | 15 14 35 | 1 5 14 40 |
| | Nov. | 15 10 0 | 17 2 21 | | Nov | 14 3 19 | 14 1 0 |
| | DEC. | 17 0 58 | 16 20 40 | | DEC | 13 16 3 | 13 11 56 |
| | | | | 1 | | 1 | |

| | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
|----------|----------------------------|-------------|--|------------------------------------|----------------------------|--------|------------------------------|----------------|
| - | A.D. 845. | | d. h. m. | d. h. m. | A.D. 848. | | d. h. m. | d. h. m. |
| | ъ. | JAN | ſ12 4 48 | 11 23 29 | A.G. | JAN | 9 19 58 | 10 7 4 |
| | | 0 | 26 23 10 | 27 11 37 | d. $h.$ $m.$ | FEB | 8 8 42 | 8 18 50 |
| | March. | FEB | 10 17 32 | 10 11 43 | 16 7 45 | MAR | 8 21 26 | 9 4 34 |
| | d. h. m. 16 14 18 | MAR | 12 6 16 | 12 0 50 | | APRIL | 7 10 10 | 7 12 46 |
| 1 | | APRIL | 10 19 0 | 10 14 55 | | MAY . | 6 22 54 | 6 20 14 |
| | | MAY. | 10 7 44 | 10 5 53 | | JUNE. | 5 11 38 | 5 8 57 |
| 1 | | JUNE. | 8 20 28 | 8 21 16 | | JULY. | 5 0 22 | 4 13 0 |
| | | JULY. | f 8 9 12 | 8 12 28 | | Aug | 3 13 6 | 3 0 20 |
| 1 | | 0 | 23 3 34 | 22 18 36 | | SEPT | 2 1 50 | 1 14 30 |
| | | Aug | 6 21 56 | 7 2 54 | | _ | (1 14 34 | 1 7 21 |
| | | SEPT | 5 10 40 | 5 16 18 | | Oct | \31 3 18 | 31 2 1 |
| | | Oct | 4 23 24 | 5 4 43 | | 0 | (14 21 40 | 14 16 38 |
| | | Nov. | 3 12 8 | 3 16 27 | | Nov | 29 16 2 | 29 21 2 |
| | | DEC. | 3 0 52 | 3 3 40 | | Dec | 29 4 46 | 29 14 56 |
| - | | | . 1 19 97 | 1 14 00 | | | | |
| | 846. | T | $\begin{bmatrix} 1 & 13 & 37 \\ 16 & 7 & 59 \end{bmatrix}$ | 1 14 33 16 13 37 | 849. | JAN | 27 17 31 | 28 6 32 |
| 1 | C, | Jan. O | | | F. | FEB | 26 6 15 | 26 19 16 |
| 1 | | Tion | (31 2 21 | 31 1 6 | 16 13 34 | MAR | 27 18 59 | 28 5 19 |
| | 1 | FEB | (1155 | 1 11 00 | | APRIL | 26 7 43 | 26 13 20 |
| | 16 20 7 | MAR | R | 1 11 28 | 1 | 0 | (11 2 5 | 11 3 21 |
| | | Anner | 131 3 49 29 16 33 | 30 22 9 29 9 43 | | MAY . | 125 20 27 | 25 20 14 |
| 1 | | APRIL MAY . | 29 16 35 | 29 9 43 28 22 39 | | June. | 24 9 11 | 24 8 4 |
| | | June . | 27 18 1 | | | JULY. | 23 21 55 | 28 10 57 |
| 1 | | 1 | (12 12 23 | 27 13 6 12 11 32 | | Aug | 22 10 39 | 21 20 58 |
| 1 | | O July. | 27 6 45 | 27 4 42 | | SEPT | 20 23 23 | 20 9 51 |
| ĺ | | Aug. | 25 19 29 | 25 20 49 | | Ocr | 20 12 7 | 20 1 50 |
| | | SEPT. | 24 8 13 | 24 12 40 | | 0 | f 4 6 29 | 4 8 29 |
| | | Oct. | 23 20 57 | 1 | | Nov | 19 0 51 | 18 20 17 |
| | | Nov. | 22 9 41 | 24 3 39 22 17 27 | | DEC. | 18 13 35 | 18 15 51 |
| | | DEC. | 21 22 25 | 22 5 55 | | | | |
| | | İ | | | 850. | JAN | 17 2 19 | 17 10 58 |
| - | 047 | 0 | 5 16 47 | 5 12 55 | Е. | FEB | 15 15 8 | 16 8 50 |
| | 847. B. | JAN | 120 11 9 | 20 17 2 | 16 19 23 | MAR | 17 8 47 | 17 17 48 |
| | | FEB | 18 23 53 | 19 2 58 | | APRIL | ∫15 16 31 | 16 4 44 |
| | 17 1 56 | MAR. | 20 12 37 | 20 11 58 | | 0 | 130 10 58 | 30 5 14 |
| | | APRIL | 19 1 21 | 18 20 43 | | MAY. | 15 5 15 | 15 13 14 |
| | | MAY. | 18 14 5 | 18 6 4 | | JUNE. | 13 17 59 | 18 20 17 |
| | | JUNE . | 17 2 49 | 16 16 54 | | JULY. | 13 6 43 | 13 3 0 |
| | | July. | 1 21 11 | 2 3 46 | | Aug | 11 19 27 | 11 10 28 |
| 1 | | | 16 15 33 | 16 5 50 | | SEPT | 10 8 11 | 9 19 40 |
| 1 | | AUG SEPT | 15 4 17 | 14 21 2 | | Oct | 9 20 55 | 9 7 26 |
| | | OCT. | 13 17 1 | 13 14 0 | | 0 | 124 15 17 | 24 21 42 |
| | | Nov. | 13 5 45 | 13 7 44 | | Nov | 8 9 39 | 7 22 5 |
| | | DEC. | 11 18 29 11 7 13 | 12 1 5 | | DEC | 7 22 23 | 7 15 21 |
| <u>i</u> | | - LANG. | 1 11 7 13 | 11 17 5 | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|--|--|--|--|--|--|
| A.D. 851. D. March. d. h. m. 17 1 11 | JAN FEB MAR APRIL O MAY . JUNE . JULY . | d. h. m. 6 11 8 4 23 52 6 12 36 5 1 20 19 19 42 4 14 4 3 2 48 2 15 32 1 4 16 30 17 0 | d. h. m. 6 10 16 5 5 19 6 22 59 5 14 9 19 13 89 5 2 24 3 12 4 2 20 2 1 3 22 30 11 7 | A.D. 854. g. March. d. h. m. 16 18 38 | JAN FEB O MAR APRIL MAY . JUNE . | d. h. m. 8 2 18 1 15 2 16 9 24 8 3 46 1 16 30 1 5 14 30 17 58 29 6 42 28 19 26 | d. h. m. 2 22 4 1 9 44 16 23 5 2 22 6 1 11 23 1 1 40 30 16 46 29 8 10 28 23 12 |
| 852. | SEPT OCT NOV DEC | 29 5 44 28 18 28 27 7 12 26 19 56 25 8 41 | 28 20 9 28 7 8 26 20 24 26 11 52 | | O Aug SEPT OCT Nov DEC | 12 13 48 27 8 10 25 20 54 25 9 38 23 22 22 23 11 6 | 12 2 36 27 13 24 26 2 36 25 14 55 24 2 32 23 13 38 |
| C.B. 16 7 0 | FEB OMAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 28 21 25 { 9 15 47 24 10 9 22 22 58 22 11 87 21 0 21 20 18 5 19 1 49 17 14 38 17 8 17 15 16 1 15 4 45 | 28 22 58 9 20 7 24 16 26 28 8 21 22 22 8 21 9 26 20 19 3 19 3 44 17 12 25 16 21 52 15 8 30 14 20 34 | 855. F. 17 0 27 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 21 23 50 20 12 84 22 1 18 20 14 2 20 2 46 18 15 80 18 4 14 16 16 58 15 5 42 14 18 26 13 7 10 12 19 54 | 22 0 14 20 10 27 21 20 38 20 7 24 19 19 23 18 8 58 18 0 3 16 16 10 15 8 29 15 0 15 18 14 56 18 4 14 |
| 853. A. 16 12 49 | JAN. FEB. O MAR. APRIL MAY JUNE JULY AUG. O SEPT. OCT. NOV. DEC. | 18 17 29 {12 6 18 27 0 35 18 18 57 12 7 41 11 20 25 10 9 9 9 21 53 { 8 10 87 23 4 59 6 28 21 6 12 5 | 18 10 8 12 0 52 27 11 57 18 16 42 12 8 59 12 0 55 10 15 47 10 5 7 8 16 55 22 15 18 7 3 37 6 18 51 5 0 11 4 10 58 | 856. E.D. 16 6 16 | JAN FEB MAR APRIL MAY . JUNE . O JULY . AUG SEPT OCT Nov | 11 8 89 9 21 23 10 10 7 8 22 51 8 11 35 7 0 19 21 18 41 6 18 3 5 1 47 3 14 31 8 3 15 1 15 59 | 15 13 52 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|---|--|--|--|---|--|---|---|
| A.D. 857. c. March. d. h. n. 16 12 4 | Jan Feb Mar April May . O June . | d. h. m. 29 6 12 27 18 56 29 7 40 27 20 24 27 9 8 {11 3 30 25 21 52 | d. h. m. 29 17 36 28 4 4 29 12 48 27 20 21 27 3 41 11 12 5 25 11 51 | A.D. 860. G.F. March. d. h. m. 16 5 31 | Jan Feb Mar O APRIL MAY . JUNE . | d. h. m. 26 21 22 25 10 6 25 22 50 { 9 17 12 24 11 34 24 0 18 22 18 2 | d. h. m. 26 28 46 25 18 8 26 10 88 9 12 86 25 0 12 24 11 5 22 19 51 |
| | July . Aug Sept Oct Nov O | 25 10 36 28 28 20 22 12 4 22 0 48 20 13 32 5 7 54 20 2 16 | 24 21 54 23 10 40 22 2 20 21 20 22 20 15 33 5 2 39 20 10 18 | | JULY . AUG SEPT O OCT Nov DEC | 22 1 46 20 14 30 19 8 14 { 3 21 36 18 15 58 17 4 42 16 17 26 | 22 8 80 20 11 8 18 19 82 8 28 49 18 5 88 16 17 47 16 8 6 |
| 858. B. 16 17 58 | Jan Feb Mar April May . O June . July . Aug Sept Oct Nov O Dec | 18 15 0 17 8 44 18 16 28 17 5 12 (16 17 56 81 12 18 15 6 40 14 19 24 13 8 8 11 20 52 11 9 36 (9 22 20 24 16 42 9 11 4 | 19 | 861. E. 16 11 20 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O Oct Nov Dec | 15 6 10 18 18 54 {15 7 88 {30 2 0 18 20 22 18 9 6 11 21 50 11 10 34 9 23 18 { 8 12 2 28 6 24 8 0 46 6 18 30 6 2 14 | 15 0 21 18 17 47 15 11 23 80 4 18 14 4 8 18 18 52 12 7 27 11 18 0 10 8 15 8 12 2 22 28 88 7 21 15 6 7 24 5 18 46 |
| 859. A. 16 28 42 | JAN FEB MAR APRIL MAY . JUNE . AUG SEPT OCT NOV DEC | 7 23 49 6 12 38 8 1 17 6 14 1 6 2 45 4 15 29 4 4 18 2 16 57 { 1 5 41 30 18 25 30 7 9 28 19 58 28 8 37 | 8 5 81 6 23 37 8 15 4 7 3 24 6 12 57 4 20 35 4 3 22 2 10 24 81 18 45 30 5 16 29 18 81 28 10 38 28 4 41 | 862. D. 16 17 9 | JAN FEB MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC | 4 14 59 8 3 48 4 16 27 8 5 11 2 17 55 { 1 6 89 80 19 28 80 8 7 28 20 51 27 9 85 26 22 19 25 11 8 24 28 47 | 4 7 26 2 21 28 4 12 28 8 4 19 2 20 20 1 11 47 {1 2 0 80 14 45 29 2 12 27 12 52 26 28 20 25 9 57 24 20 58 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|----------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 863. | | d. h. m. | d. h. m. | A.D. 866. | | d. h. m. | d. h. m. |
| c. | JAN. | 23 12 32 | 23 8 9 | F. | JAN | 20 3 41 | 20 15 37 |
| March. | 0 | (7 6 54 | 7 19 38 | d, h, m | FEB | 18 16 25 | 19 3 13 |
| d. h. m. | FEB | 22 1 16 | 21 19 52 | 16 16 24 | MAR. | 20 5 9 | 20 12 39 |
| 16 22 57 | MAR | 23 14 0 | 23 8 22 | | APRIL | 18 17 53 | 18 20 32 |
| 10 22 0. | APRIL | 22 2 44 | 21 21 52 | | MAY. | 18 6 37 | 18 3 42 |
| | MAY. | 21 15 28 | 21 12 26 | | June . | 16 19 21 | 16 11 13 |
| | June . | 20 4 12 | 20 3 42 | | July. | 16 8 5 | 15 20 9 |
| | July. | 19 16 56 | 19 19 4 | | Aug | 14 20 49 | 14 7 31 |
| | 0 | (3 11 18 | 3 2 12 | | SEPT. | 13 9 83 | 12 21 49 |
| | Aug. | 18 5 40 | 18 9 59 | | Oct. | 12 22 17 | 12 14 53 |
| | SEPT. | 16 18 24 | 16 23 59 | | Nov. | (11 11 1 | 11 9 49 |
| | Oct. | 16 7 8 | 16 13 0 | | 0 | 26 5 28 | 26 1 31 |
| | Nov. | 14 19 52 | 15 1 10 | | DEC | 10 23 45 | 11 5 5 |
| | DEC. | 14 8 36 | 14 12 38 | | | | |
| | | | 10.09.00 | 867. | JAN | 9 12 30 | 9 23 8 |
| 864. | JAN | 12 21 20 | 12 23 26 | E. | FEB | 8 1 14 | 8 14 41 |
| B.A. | _ 0 | 27 15 42 | 27 21 24 | 16 22 13 | MAR. | 9 13 58 | 10 3 16 |
| | FEB | 11 10 4 | 11 9 38 | | APRIL | 8 2 42 | 8 13 6 |
| 16 4 46 | MAR. | 11 22 48 | 11 19 32 | | MAY . | 7 15 26 | 7 20 55 |
| | APRIL | 10 11 32 | 10 5 89 | | 0 | 22 9 48 | 22 9 51 |
| | MAY . | | 9 16 43 | • | JUNE . | 6 4 10 | 6 3 41 |
| | June . | 1 | 8 5 18 7 19 36 | | JULY. | 5 16 54 | 5 10 30 |
| 1 | JULY. | 13 | L . | | Aug | 4 5 38 | 3 18 26 |
| | . 0 | 22 20 6 | 1 | | SEPT | 2 18 22 | 2 4 34 |
| | Aug. | | 6 11 24 | | 0 | 1 2 7 6 | 1 17 37 |
| | SEPT. | | 4 20 20 | | Oct | ₹31 19 50 | 81 9 44 |
| | Ocr. | . 4 15 56 | 8 11 53 | 1 | 10 | § 15 14 12 | 15 17 18 |
| | Nov. | . 3 4 40 | | | Nov. | 30 8 34 | 30 4 14 |
| | DEC. | | | | DEC | 29 21 18 | 29 23 48 |
| | | 1 6 8 | 1 | | 1_ | 00 10 0 | 23 18 46 |
| 865. | JAN. | | 1 | 868. | JAN. | 28 10 3 | |
| G. | | 30 18 58 | 81 1 45 | D.C. | FEB. | 26 22 47 | 27 11 33 28 1 22 |
| | FEB. | | | 16 4 2 | | 00 0 15 | 28 1 22 26 12 11 |
| 16 10 35 | MAR. | 1 7 87 | | | APRIL | | |
| 20 20 00 | | (80 20 2) | | | 0 | 10 18 37 | |
| | APRII | | | | MAY | 1 ~ 4 40 | |
| | MAY | | | | JUNE | 00 11 05 | |
| | JUNE | 1 | | | JULY | | |
| | _ 0 | 12 4 5 | | II. | Aug. | | |
| | July | 1 2 | | ! 1 | SEPT. | 20 15 56 | 1 . |
| | Aug. | | 1 | U | Oct. | . | 1 4 6 8 |
| | SEPT. | 1 | 1 | 11 | Non | 1.7 | T |
| | Ocr. | . 23 13 2 | | 11 | Nov. | - | 7 17 23 80 |
| | 1 1 1 | . 22 2 1 | | 11 | DEC. | . 18 6 | 1 11 25 50 |
| | DEC. | . 21 14 5 | $7 \mid 22 \mid 1 \mid 34$ | F | | | *** |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 857. | | d. h. m. | d. h. m. | A.D. 860. | | d. h. m. | d. h. m. |
| C. 1 | JAN | 29 6 12 | 29 17 36 | G.F. | JAN | 26 21 22 | 26 23 46 |
| d h m | FEB | 27 18 56 | 28 4 4 | March. $d. h. m.$ | FEB | 25 10 6 | 25 18 8 |
| 16 12 4 | MAR | 29 7 40 | 29 12 48 | 16 5 31 | MAR | 25 22 50 | 26 10 83 |
| | APRIL | 27 20 24 | 27 20 21 | | 0 | (9 17 12 | 9 12 86 |
| | May . | 27 9 8 | 27 3 41 | | APRIL | 24 11 34 | 25 0 12 |
| | 0 | (11 3 30 | 11 12 5 | | MAY . | 24 0 18 | 24 11 5 |
| | JUNE. | 25 21 52 | 25 11 51 | | JUNE. | 22 13 2 | 22 19 51 |
| | JULY. | 25 10 36 | 24 21 54 | | July. | 22 1 46 | 22 3 80 |
| | Aug | 23 23 20 | 23 10 40 | | Aug | 20 14 30 | 20 11 3 |
| | SEPT. | 22 12 4 | 22 2 20 | | SEPT. | 19 3 14 | 18 19 82 |
| | Oct | 22 0 48 | 21 20 22 | | 0 | (8 21 86 | 8 28 49 |
| | Nov. | 20 13 32 | 20 15 33 | | Ocr | 18 15 58 | 18 5 88 |
| | 0 | (5 7 54 | 5 2 39 | | Nov. | 17 4 42 | 16 17 47 |
| | Dec | 20 2 16 | 20 10 18 | | DEC. | 16 17 26 | 16 8 6 |
| | 2200 . | | 20 10 10 | | DEC | 10 11 20 | 10 0 0 |
| 858. | JAN | 18 15 0 | 19 3 11 | 861. | Jan | 15 6 10 | 15 0 21 |
| в. | FEB | 17 3 44 | 17 17 19 | E. | FEB | 13 18 54 | 13 17 47 |
| 16 17 53 | Mar | 18 16 28 | 19 4 33 | 16 11 20 | Mar. | (15 7 88 | 15 11 28 |
| | APRIL | 17 5 12 | 17 13 22 | | 0 | 180 2 0 | 80 4 18 |
| | MAY . | (16 17 56 | 16 20 37 | | APRIL | 13 20 22 | 14 4 8 |
| | 0 | 31 12 18 | 81 14 20 | | MAY. | 13 9 6 | 18 18 52 |
| | JUNE . | 15 6 40 | 15 8 17 | | June . | 11 21 50 | 12 7 27 |
| | JULY. | 14 19 24 | 14 10 31 | | JULY. | 11 10 84 | 11 18 0 |
| | Aug. | 13 8 8 | 12 19 23 | | Aug | 9 23 18 | 10 8 15 |
| | SEPT. | 11 20 52 | 11 6 50 | | SEPT. | (8122 | 8 12 2 |
| | Oct. | 11 9 36 | 10 21 22 | | 0 | 23 6 24 | 22 28 88 |
| | Nov. | (9 22 20 | 9 14 45 | | Ocr | 8 0 46 | 7 21 15 |
| | 0 | 24 16 42 | 24 18 28 | | Nov. | 6 18 80 | 6 7 24 |
| | DEC | 9 11 4 | 9 10 0 | | DEC. | 6 2 14 | 5 18 46 |
| | | " == = | 0 10 0 | | DEC | 0 2 14 | 9 10 40 |
| 859. | JAN | 7 23 49 | 8 5 31 | 862. | Jan | 4 14 59 | 4 7 26 |
| A. | FEB | 6 12 33 | 6 23 37 | D. | FEB | 8 8 48 | 2 21 28 |
| 16 23 42 | MAR | 8 1 17 | 8 15 4 | 16 17 9 | MAR. | 4 16 27 | 4 12 28 |
| | APRIL | 6 14 1 | 7 3 24 | | APRIL | 3 5 11 | 3 4 19 |
| | MAY . | 6 2 45 | 6 12 57 | | MAY. | 2 17 55 | 2 20 20 |
| | JUNE . | 4 15 29 | 4 20 35 | | | (1 6 39 | 1 11 47 |
| | JULY. | 4 4 13 | 4 3 22 | | JUNE, | 80 19 28 | |
| | Aug | 2 16 57 | ∫ 2 10 24 | | July. | 80 8 7 | 1 2 0 30 14 45 |
| | SEPT | ∫ 1 5 41 | 31 18 45 | | Aug | 28 20 51 | 29 2 12 |
| | | 30 18 25 | 30 5 16 | | SEPT | 27 9 85 | 27 12 52 |
| | Oct | 30 7 9 | 29 18 31 | | Ocr | 26 22 19 | 26 28 20 |
| | Nov | 28 19 53 | 28 10 33 | | Nov | 25.11 8 | 25 9 57 |
| | DEC | 28 8 37 | 28 4 41 | | DEC | 24 23 47 | 24 20 58 |
| | 1 | de la | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|----------------------|-----------------------------------|----------------------------|---------|------------------------------------|------------------------------|
| A.D. 863. c. | Jan | d. h. m. | d. h. m. | A.D. 866. | JAN | d. h. m. | d. h. m. 20 15 37 |
| March. | 0 | (7 6 54 | 7 19 38 | d. h. m. | FEB | 18 16 25 | 19 3 13 |
| d. h. m. | FEB | 22 1 16 | 21 19 52 | 16 16 24 | MAR. | 20 5 9 | 20 12 39 |
| 16 22 57 | MAR | 23 14 0 | 23 8 22 | • | APRIL | 18 17 53 | 18 20 32 |
| 10 22 01 | APRIL | 22 2 44 | 21 21 52 | | MAY. | 18 6 37 | 18 3 42 |
| | MAY . | 21 15 28 | 21 12 26 | | JUNE. | 16 19 21 | 16 11 13 |
| | JUNE. | 20 4 12 | 20 3 42 | | July. | 16 8 5 | 15 20 9 |
| | JULY. | 19 16 56 | 19 19 4 | | Aug | 14 20 49 | 14 7 31 |
| | 0 | (8 11 18 | 3 2 12 | | SEPT | 13 9 33 | 12 21 49 |
| | Aug. | 18 5 40 | 18 9 59 | | Oct | 12 22 17 | 12 14 53 |
| | SEPT | 16 18 24 | 16 23 59 | | Nov | (11 11 1 | 11 9 49 |
| | Oct | 16 7 8 | 16 13 0 | | 0 | 26 5 28 | 26 1 31 |
| | Nov. | 14 19 52 | 15 1 10 | | DEC | 10 23 45 | 11 5 5 |
| | DEC. | 14 8 36 | 14 12 38 | | | | |
| | | (10 01 00 | 12 23 26 | 867. | JAN | 9 12 30 | 9 23 8 |
| 864. | JAN | 12 21 20 27 15 42 | 27 21 24 | E. | FEB | 8 1 14 | 8 14 41 |
| B.A. | 0 | | 11 9 38 | 16 22 13 | MAR | 9 13 58 | 10 3 16 |
| | FEB | 11 10 4 | 11 19 32 | | APRIL | 8 2 42 | 8 13 6 |
| 16 4 46 | MAR. | 1 1 | 10 5 39 | | MAY . | 7 15 26 | 7 20 55 |
| | APRIL | 10 11 82 | 9 16 43 | | 0 | 22 9 48 | 22 9 51 |
| | MAY . | 1 1 | 8 5 18 | | JUNE . | 6 4 10 | 6 8 41 |
| | June . | 8 13 0 | 7 19 36 | | JULY. | 5 16 54 | 5 10 30 |
| 1 | JULY. | | 22 19 5 | | Aug | 4 5 38 | 3 18 26 |
| | . 0 | 22 20 6 | 6 11 24 | ' | SEPT | 2 18 22 | 2 4 34 |
| | Aug. | | 5 3 56 | | 0 | 1 2 7 6 | 1 17 37 |
| | SEPT. | 5 8 12 4 15 56 | 4 20 20 | | Ocr | }81 1 9 50 | 81 9 44 |
| | Our. | | 8 11 58 | | 0 | ∫ 15 14 12 | 15 17 18 |
| | Nov. | . 8 4 40 2 17 24 | 3 11 33 | | Nov. | (30 8 34 | 1 |
| | DEC. | | | | DEC. | 29 21 18 | 29 23 48 |
| | | 1 6 9 | 1 14 45 | | 1_ | 00 10 0 | 23 18 46 |
| 865. | JAN. | . 17 | 15 20 54 | 868. | JAN. | 28 10 3 | 27 11 33 |
| G. | | 30 18 53 | 81 1 45 | D.C. | FEB. | . 26 22 47 27 11 31 | 28 1 22 |
| | FEB. | • • • - ~ - | | 1 6 4 2 | | 00 0 15 | |
| 16 10 85 | MAR. | 1 7 87 | 1 11 20 | | APRIL | | |
| 20 20 00 | | (80 20 21 | | | 0 | 10 18 37 | |
| | APRII | | 29 4 15 | | MAY | | |
| | MAY | 40.00 | 28 13 12 | 1 | JUNE | 00 14 05 | |
| | JUNE | 1 | | | JULY | 00 0 1 | |
| | _ 0 | 12 4 55 | 1 | | AUG. | | |
| | July | 1 '~ 40 4 | | | Sert. | 20 13 30 | |
| | Aug. | | 1 | Ш | Oct. | • | 1 4 6 8 |
| | SEPT. | 1 | l . | 11 | Nov | . 18 17 2 | -1 |
| | Oct. | 28 13 29 | | 11 | Nov. | | 7 17 28 80 |
| | | . 22 2 18 | 1 | li . | יטאנים. | . 10 | 20 00 |
| | DEC. | . 21 14 57 | $7 \mid 22 \mid 1 \mid 84$ | : | | 1 | * |

| 1 | | | 1 | | | | |
|----------------------------|--------------|--|------------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Menn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | Trae New Moon. (O Full Ecl.) |
| A.D. 869. | | d. h. m. | d. h. m. | A.D. 872, | | d. h. m. | d. h. m. |
| В. | JAN. | 16 18 51 | 16 18 8 | F.E. | JAN | 14 10 1 | 14 6 51 |
| March. $d. h. m.$ | FEB | 15 7 35 | 15 12 52 | | FEB | (12 22 45 | 12 18 6 |
| 16 9 50 | MAR. | 16 20 19 | 17 6 15 | March. | 0 | 27 17 7 | 28 6 56 |
| | APRIL | (15 9 3 | 15 21 16 | d. h. m. 16 3 17 | MAR. | 18 11 29 | 18 5 58 |
| | 0 | 30 3 25 | 29 21 2 | 20 0 27 | APRIL | 12 0 13 | 11 18 88 |
| 1 | MAY. | 14 21 47 | 15 9 29 | | MAY. | 11 12 57 | 11 8 21 |
| | JUNE . | 13 10 31 | 13 19 16 | | JUNE . | 10 1 41 | 9 28 12 |
| 1 . | JULY. | 12 23 15 | 13 3 26 | | JULY . | 9 14 25 | 9 14 40 |
| | Aug. | 11 11 59 | 11 11 5 | | Aug. | (8 8 9 | 8 6 8 |
| | SEPT | 10 0 43 | 9 19 12 | | 0 | 22 21 81 | 22 10 20 |
| | Oct | 9 13 27 | 9 4 33 | <u> </u> | SEPT. | 6 15 58 | 6 20 48 |
| | Nov. | 8 2 11 | 7 15 44 | | Oct | 6 4 87 | |
| | DEC | 7 14 55 | 7 4 57 | | Nov. | 4 17 21 | 6 10 87 |
| | DEC | . 11 00 | . ±01 | | 70 | | 4 28 28 |
| 070 | ~ | 0 0 40 | 2 00 40 | | DEC | 4 6 5 | 4 11 26 |
| 870. | JAN | 6 3 40 | 5 20 10 | | _ | | |
| 1 | FEB. | 4 16 24 | 4 12 53 | 873. | JAN | 2 18 50 | 2 22 84 |
| 16 15 39 | MAR | 6 5 8 | 6 6 17 | ъ. | FEB | 1 7 84 | 1 8 56 |
| | . 0 | 20 23 30 | 21 4 14 | 16 9 6 | MAR | 2 20 18 | 2 18 44 |
| | APRIL | 4 17 52 | 4 23 21 | | APRIL | [1 9 2 | 1 4 28 |
| | MAY . | 4 6 36 | 4 15 5 | | | (80 21 46 | 80 14 88 |
| | JUNE. | 2 19 20 | 3 4 49 | | MAY. | 80 10 80 | 80 2 11 |
| | JULY. | 2 8 4 | 2 16 28 | | JUNE. | 28 28 14 | 28 15 88 |
| | | (31 20 48 | 1 2 27 | | JULY. | 28 11 58 | 28 6 41 |
| | Aug | 30 9 32 | (30 11 36 | | Aug | 27 0 42 | 26 28 6 |
| | SEPT | 28 22 16 | 28 20 45 | | Sept | 25 18 26 | 25 15 56 |
| | Oct | 28 11 0 | 28 6 88 | | Oct | 25 2 10 | 25 8 17 |
| , | Nov. | 26 23 44 | 26 17 21 | | Nov | 28 14 54 | 28 28 27 |
| | DEC | 26 12 28 | 26 5 18 | | DEC | 28 8 88 | 28 18 1 |
| 871. | - | 05 1 10 | 24 #2 2= | | | | |
| G. | JAN | 25 1 13 | 24 18 27 | 874. | JAN | 21 16 28 | 22 0 49 |
| | FEB | 23 13 57 (10 8 19 | 23 8 42 | C. | FED | 20 5 7 | 20 10 56 |
| 16 21 28 | O M. n | $\begin{cases} 10 & 8 & 19 \\ 25 & 2 & 41 \end{cases}$ | 10 20 6 | 16 14 55 | MAR | 21 17 51 | 21 19 45 |
| 10 21 20 | MAR APRIL | 28 15 25 | 24 23 56 | | APRIL | 20 6 85 | 20 8 54 |
| | MAY . | 23 15 25 | 23 15 48 | | MAY. | 19 19 19 | 19 12 18 |
| | JUNE. | 25 4 9 21 16 53 | 23 7 26 | | JUNE. | 18 8 8 | 17 21 48 |
| | JUNE. | 21 5 37 | 21 22 21 | | _ 0 | § 8 2 25 | 8 10 14 |
| | | 19 18 21 | 21 12 1 | | July. | 17 20 47 | 17 9 20 |
| | Aug | (3 12 43 | 20 0 19 | ļ | Aug | 16 9 81 | 15 28 80 |
| | O Sept. | 18 7 5 | 2 22 46 | | SEPT. | 14 22 15 | 14 16 2 |
| | Oct. | 17 19 49 | 18 11 36 | . 1 | Oct | 14 10 59 | 14 10 8 |
| | Nov. | 16 8 33 | 17 22 22 | | Nov | 12 28 48 | 18 4 80 |
| 1 | DEC. | 15 21 17 | 16 9 8 | | DEC | §12 12 27 | 12 21 51 |
| | DEU. | 10 21 17 | 15 19 52 | | 0 | 27 6 49 | 26 22 29 |
| - | | | - 11 | | | | |

| | 0.0 | - | | | |
|--|--|----------------------------|--|--|--|
| Menn Verbal Equitox, | Month, Mean New True New Moon, Moon, Moon, Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. C Full Ecl.) |
| A.D. 875. B. March, J. h. m. 10 20 43 | | | JAN FER MAR APRIL . O MAY . JUNE . JULY . OOCT NOV DEC | Moon. | Moon. |
| 876. 3.0. 16 2.32 | Jan. 29 22 44 80 11 19 Fro. 28 11 28 29 1 21 Mar. 20 0 12 29 12 24 Arril 27 12 56 27 21 1 May 27 1 40 27 4 6 | 880. c.u. 16 1 48 | JAN FEB MAR O APRIL MAY . JUNE . JULY . AUG SEPT O OCT NOV DEC JAN FEB | 26 18 58 25 2 87 26 15 22 (10 9 44) 25 4 6 24 16 50 28 5 84 22 18 18 21 7 2 19 19 46 (4 14 8 (19 8 80 17 21 14 17 9 58 15 22 42 14 11 26 (15 0 10 (20 18 32 18 12 54 18 1 88 11 14 22 11 8 6 9 15 50 (8 4 84 (22 22 56 7 17 18 6 6 6 2 | 26 8 23 25 1 17 26 18 26 10 12 11 25 10 48 25 1 14 28 14 19 28 1 14 21 10 56 19 20 14 4 7 4 19 5 52 17 16 16 17 8 87 15 16 0 14 5 26 14 19 54 80 4 46 18 11 12 18 2 52 11 18 15 11 8 42 9 21 55 8 9 56 6 22 9 28 7 21 10 6 8 5 |

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| Maan 1 | | Mean New | True New | Mean | | Mean New | True New |
|----------------------------|-------------|---|-----------------------|--------------------|-------------|--|-----------------------|
| Mean Vernal Equinox. | Month. | Moon. O Full Ecl.) | Moon. | Vernal Equinox. | Month. | Moon. (O Full Ecl.) | Moon. |
| A.D. 881. | | d. h. m. | d. h. m. | A.D. 884. | | d. h. m. | d. h. m. |
| A. | Jan | 4 7 31 | 4 5 46 | E.D. | Jan | ∫ 1 22 41 | 2 10 0 |
| March. | Feb | 2 20 15 | 2 16 42 18 3 30 | March. | FEB | \31 11 25 | 1 0 4 |
| d. h. m. 16 7 36 | MAR | 4 8 59 | 4 3 55 | d. h. m. | | (109 | 1 11 30 |
| | APRIL | 2 21 43 | 2 15 47 | 16 1 3 | Mar | 130 12 53 | 30 20 39 |
| | MAY . | 2 10 27 | 2 4 44 | | APRIL | 29 1 37 | 29 4 14 |
| | _ | 31 23 11 | 31 18 56 | | MAY. | 28 14 21 27 3 5 | 28 11 8 26 18 31 |
| | JUNE. JULY. | 30 11 55 30 0 39 | 30 10 8 30 1 46 | | JUNE. JULY. | 26 15 49 | 26 3 26 |
| | 0 | (13 19 1 | 13 9 53 | | Aug | 25 4 33 | 24 14 50 |
| | Aug | 28 13 23 | 28 17 8 | | SEPT | 23 17 17 | 23 5 17 |
| | SEPT | 27 2 7 | 27 7 44 | | Oct | 23 6 1 | 22 22 35 |
| | Oct | 26 14 51 25 3 35 | 26 21 21 | | Nov. | 21 18 45 | 21 17 44 6 10 30 |
| | Nov Dec | 25 3 35 24 16 19 | 25 9 56 24 21 33 | | DEC | $\left\{ egin{array}{cccc} 6 & 13 & 7 \\ 21 & 7 & 29 \end{array} \right\}$ | 21 13 9 |
| 882. | | | | 885. | JAN. | 19 20 14 | 20 7 13 |
| 602. G. | JAN | 23 5 4 | 23 8 14 7 5 4 | c. | FEB. | 18 8 58 | 18 22 42 |
| | FEB | $\begin{cases} 21 & 17 & 48 \end{cases}$ | 21 18 6 | 16 6 52 | MAR | 19 21 42 | 20 11 8 |
| 16 13 25 | MAR. | 23 6 32 | 23 3 30 | | APRIL | 18 10 26 | 18 20 46 |
| | APRIL | 21 19 16 | 21 13 6 | | MAY . | 17 23 10 | 18 4 25 |
| | MAY . | 21 8 0 | 20 23 41 | | June. | $\begin{cases} 1 & 17 & 32 \\ 16 & 11 & 54 \end{cases}$ | 1 16 19 |
| | JUNE. | 19 20 44 | 19 11 58 19 2 14 | | July. | 16 0 38 | 15 17 58 |
| | O O | (3 3 50 | 3 2 46 | | Aug. | 14 13 22 | 14 2 3 |
| | Aug | 17 22 12 | 17 18 12 | | SEPT | 13 2 6 | 12 12 22 |
| | SEPT | 16 10 56 | 16 11 10 | | Oct | 12 14 50 | 12 1 34 |
| | Oct | 15 23 40 | 16 4 8 | | Nov. | 11 8 34 | 10 17 45 |
| | Nov Dec | 14 12 24 14 1 8 | 14 20 13 | | DEC | 10 16 18 | 10 12 16 |
| | 1 | | 14 10 47 | 886. | JAN. | 9 5 2 | 9 7 43 |
| 883. F. | JAN. | $\begin{cases} 12 & 13 & 52 \\ 27 & 8 & 14 \end{cases}$ | 12 23 29 27 4 47 | В. | FEB. | 7 17 46 | 8 2 28 |
| | FEB. | 11 2 36 | 11 10 20 | 16 12 41 | MAR | 9 6 30 | 9 19 6 |
| 16 19 14 | MAR. | 12 15 20 | 12 19 35 | | APRIL | 7 19 14 | 8 8 47 |
| | APRIL | 11 4 4 | 11 3 45 | | MAY . | { 7 7 58 | |
| | MAY . | | 10 11 40 | | Troop | 122 2 20 5 20 42 | 21 18 53 6 3 58 |
| | JUNE | i | 8 20 18 | | JUNE . | 5 20 42 | 5 11 10 |
| | JULY | 23 12 38 | i | | Aug. | 3 22 10 | 3 18 17 |
| | Aug. | | | | SEPT | 2 10 54 | 2 2 13 |
| | SEPT. | . 5 19 44 | 5 11 4 | | Oct | ∫ 1 23 38 | |
| | Oct. | . 5 8 28 | | | İ | 31 12 22 | |
| | Nov. | 3 21 12 3 9 56 | 1 | | Nov. | $\begin{cases} 15 & 6 & 44 \\ 30 & 1 & 6 \end{cases}$ | |
| | DEC. | . 8 9 56 | 3 17 28 | | DEC. | 29 13 50 | |

| Committee of the state of management | of A. Chievanier v. Joseph | ······································ | The state of the s | | | | |
|--|----------------------------|--|--|----------------------------|------------|------------------------------------|------------------------------|
| Mean Vernal Equilibria, | M: nth. | Moon. Moon. () Full Ecl.) | True New Moon. | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 887. | The second second second | d. h. m. | d. h. m. | A.D. 890. | | d. h. m. | d. h. m. |
| March. | JAN | 28 2 85 | 28 1 56 | D, | JAN | 24 17 45 | 24 15 35 |
| d. h , m | Fan | 23 15 19 | 26 20 17 | | FEB | 28 6 29 | 23 2 22 |
| 16 18 29 | MAR | 28 4 8 | 28 18 28 | March. | O | (10 0 51 | 10 14 39 |
| 1 | Argu. | 26 16 47 | 27 4 14 | d. h. m. 16 11 56 | MAR. | 24 19 18 | 24 13 34 |
| | . , | (11 11 9) | 11 4 20 | | APRIL | 28 7 57 | 23 1 39 |
| | MAY . | 126 5 81 | 26 16 30 | | MAY. | 22 20 41 | 22 15 1 |
| | June . | 21 18 15 | 25 2 27 | | June . | 21 9 25 | 21 5 40 |
| | July . | 21 6 59 | 21 10 56 | | JULY. | 20 22 9 | 20 21 13 |
| | Aru. | 22 19 48 | 22 18 57 | | Aug | 19 10 58 | 19 13 0 |
| | SEPT | 21 8 27 | 21 8 27 | | 0 | (8 5 15 | 2 18 13 |
| | Ocr | 20 21 11 | 20 13 8 | | SEPT. | 17 28 87 | 18 4 19 |
| | Nov. | 19 9 55 | 19 0 27 | | Oct | 17 12 21 | 17 18 46 |
| | DEC. | 18 22 89 | 18 18 81 | | Nov. | 16 1 5 | 16 8 6 |
| | | | | | DEC | 15 13 49 | 15 20 19 |
| 888. | JAN | 17 11 21 | 17 105 | | 252111 | 20 20 20 | 20 20 20 |
| 44.9 | FKH. | 16 0 8 | 17 4 25 | 001 | Τ | 14 0 01 | 14 5 07 |
| 16 0 18 | MAR. | (16 12 52 | 15 20 87 | 891. c. | JAN | 14 2 81 12 15 18 | 14 7 27 |
| | 13 | 181 7 14 | 16 18 29 81 12 14 | | FEB | | 12 17 32 14 2 54 |
| The state of the s | Arnii. | 15 1 36 | | 16 17 45 | MAR. | | |
| | MAY . | 14 14 20 | 15 6 9 | | APRIL MAY. | 12 16 46 | 12 12 3 11 21 48 |
| | JUNE . | 18 8 4 | 13 11 84 | | June, | 12 5 30 | 11 21 48 |
| | July . | 12 15 48 | 12 28 80 | | JULY. | 10 6 58 | 9 22 10 |
| | Aro. | 11 4 82 | 11 9 57 | | Aug. | (8 19 42 | 8 13 25 |
| | SEPT. | 9 17 16 | 9 19 86 | | O . | 23 14 4 | 28 10 81 |
| | Oct. | 9 6 0 | 9 5 14 | | SEPT. | 7 8 26 | 7 6 10 |
| | Nov. | 7 18 44 | 7 15 21 | | Oct. | 6 21 10 | 6 23 30 |
| | Dec. | 7 7 28 | 7 2 16 | | Nov. | 5 9 54 | 5 16 25 |
| | | , , | 1 2 20 | | DEC. | 4 22 38 | 5 7 59 |
| 900 | | * 00 10 | # 44 G | | | | 0 . 00 |
| 889. | JAN. | 5 20 12 | 5 14 2 | 000 | т | 8 11 22 | 8 21 48 |
| 10 6 7 | FEB. | 1 5 21 40 | 4 2 48 | 892. | JAN | 8 11 22 2 0 6 | 2 9 27 |
| *** 0 / | MAR. | 20 16 2 | 5 16 28 21 4 8 | 15 28 81 | FEB. | 2 12 50 | 2 19 18 |
| | | 4 10 24 | 21 4 8 | 10 20 01 | MYWK. | (1 1 84 | 1 8 44 |
| | MAY . | 8 28 8 | 8 22 21 | | APRIL | 80 14 18 | |
| | June . | 1 | 2 18 58 | | MAY . | 80 8 2 | 29 19 27 |
| | JUAN . | 2 0 86 | 2 4 55 | | JUNE . | 28 15 46 | 28 4 44 |
| 1 | Juny . | 81 18 20 | 1 | | | (18 10 8 | |
| | Aug. | 1 | 80 7 49 | | July. | 14 | |
| 1 | () | (18 20 26 | 5 | | Aug. | | 1 |
| | Harr. | 1 5 | 1 | | SEPT. | | 1 |
| | Our, | 1 | 1 | | Ocr | l . | 1 |
| | Nov. | 1 | 1 | | Nov. | · · | |
| | DEC. | | 1 | 11 | DEC. | | |
| | A.FRICE | | Mary of the | | | | |
| 4 | 1 | 1 | 1 | 11 | 1 | | <u> </u> |

| | | | 1) | , | | 1 | |
|----------------------------|--------|------------------------------------|------------------------------|----------------------------|--------|------------------------------|------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Montb. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
| A.D. 893. | | d. h. m. | d. h. m. | A.D. 896. | | d. h. m. | d. h. m. |
| G. | 0 | 6 14 32 | 6 7 5 | D.C. | JAN | 19 0 5 | 18 20 89 |
| 1 | JAN | 21 8 54 | 21 21 33 | March. d . h . m . | FEB | 17 12 49 | 17 11 56 |
| March. | FEB | 19 21 39 | 20 10 14 | 15 22 49 | MAR | 18 1 33 | 18 8 89 |
| d. h. m. | | 21 10 23 | 21 20 20 | | APRIL | 16 14 17 | 17 0 87 |
| 16 5 22 | MAR. | 19 23 7 | 20 4 25 | | 0 | r 1 8 39 | 1 8 89 |
| 1 | APRIL | | 19 11 26 | | MAY. | 16 3 1 | 16 14 10 |
| 1 | MAY . | 19 11 51 | 1 11 | | JUNE . | 14 15 45 | 15 1 15 |
| | June. | 18 0 35 | | | | 14 4 29 | 14 10 20 |
| | 0 | $\int 2 18 57$ | 3 1 30 | | JULY. | 12 17 13 | 12 18 48 |
| | July. | 17 13 19 | 17 2 23 | | Avg | | 11 3 10 |
| | Aug | 16 2 3 | 15 13 28 | | SEPT | 11 5 57 | 10 12 22 |
| | SEPT | 14 14 47 | 14 1 27 | | Ост. | £10 18 41 | |
| | Ocr | 14, 3 31 | 13 17 30 | | 0 | 125 13 8 | 25 15 18 |
| | Nov | 12 16 15 | 12 11 58 | | Nov | 9 7 25 | 8 22 57 |
| | DEC | 112 4 59 | 12 7 31 | | DEC | 8 20 9 | 8 11 9 |
| | 0 | 26 23 21 | 26 20 29 | 897. | JAN. | 7 8 53 | 710 |
| | | | 1 | В. | FEB. | 5 21 87 | 5 16 20 |
| 894. | JAN | 10 17 43 | 11 2 27 | 16 4 38 | MAR. | 7 10 21 | 7 8 41 |
| F. | FEB | 9 6 27 | 9 19 18 | 10 4 90 | APRIL | (5 28 5 | 6 1 20 |
| 16 11 11 | MAR. | 10 19 11 | 11 9 11 | | | 20 17 27 | 20 19 56 |
| 1 | APRIL | 9 7 55 | 9 20 5 | | 7/5.22 | 5 11 49 | 5 17 26 |
| | MAY . | 8 20 39 | 9 4 31 | | MAY, | 4 0 88 | 4 8 12 |
| | June . | . 7 9 2 | 3 7 11 32 | | June. | 8 18 17 | 8 21 11 |
| ſ | 0 | 122 3 4 | 5 22 3 13 | ļ. | July. | (2 2 1 | 2 8 81 |
| | JULY | . 6 22 | 6 18 11 | | Aug. | 14 | |
| | Aug. | . 5 10 5 | 1 5 1 36 | | | 131 14 45 | 80 4 82 |
| 4 | SEPT. | . 3 23 3 | 3 10 47 | | SEPT. | 1 | 1 |
| | Oct. | . 3 12 1 | 9 2 22 34 | | 0 | 14 21 51 | |
| 1 | Nov. | . 21 | 3 1 13 21 | | Oct. | (29 16 18 | |
| | | c 1 13 4 | 7 1 6 48 | N. | Nov. | l . | |
| | DEC. | 0 16 8 | 9 16 12 14 | | DEC. | . 27 17 41 | 27 12 27 |
| | | 81 2 8 | 1 | 898. | JAN. | . 26 6 26 | 26 0 81 |
| | | | | A. | FEB. | 24 19 10 | 24 18 28 |
| 895. | JAN. | . 29 15 1 | 5 29 21 8 | 16 10 27 | | | |
| E. | FEB. | . 28 4 | 0 28 14 53 | | 0 | (10 2 1 | |
| 16 17 | MAR. | | 4 30 5 59 | | APRII | 11 | 1 |
| | APRI | 1 _ | 28 18 7 | | May | | |
| | MAY | | 1 | | JUNE | | 3 28 0 44 |
| | JUNE | | | 11 | 1 _ | | |
| | July | | | II . | JULY | | |
| | AUG. | | | 11 | Aug. | | |
| | SEPT | | 8 22 10 55 | . 11 | SEPT. | | |
| | Oct. | | 1 | !1 | 0 | 13 | |
| | Nov. | 1 | · 1 | 11 | Ocr. | . 19 1 | 2 19 5 86 |
| | DEC. | | | | Nov. | . 17 13 4 | |
| | L LEU. | . 20 11 | 20 20 9 9 | - | DEC. | . 17 28 | 0 17 8 54 |
| | 1 | | | 1) | 1 | - 1 | |

| Month Mont | | | | ERUSKUEM (| ALLE TIME. | | | |
|--|---------|--------|---|------------|------------|--------|-------------|----------|
| 889. 4. March. 4. March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 16 15 5 March. 4. h. m. 16 9 42 March. 10 9 21 10 11 48 June. 10 0 25 2 45 12 1 28 June. 10 10 8 28 10 8 31 O (25 2 45 24 17 44 Sept 8 21 7 9 0 21 Oct 8 9 51 8 15 38 Nov 6 22 35 7 5 43 Dec 6 11 10 6 18 46 O (18 7 9 18 12 34 Aprill. 2 2 50 1 20 26 March. 4. h. m. 16 9 42 March. 4 1 2 1 1 28 June. 8 10 4 2 2 1 1 42 March. 8 20 5 12 1 28 June. 900. 900. 900. 900. 900. 900. 900. 90 | Vernal | Month. | Moon. | Moon. | Vernal | Month. | Moon. | Moon |
| March. | | | d. h. m. | d. h. m. | | | d. h. m. | d. h. m. |
| Fig. | | JAN | 15 15 15 | 15 14 38 | | JAN | 12 6 25 | 12 18 21 |
| 16 16 15 | | FEB | 14 8 59 | 14 1 11 | | FEB | 10 19 9 | |
| APRIL 14 5 27 18 28 7 MAY . 13 18 11 13 11 34 JUNE . 12 6 55 12 1 28 JULY . 11 19 39 11 16 37 AUG (10 8 23 10 8 31 O (25 2 45 241 7 44 Sept 8 21 7 9 0 21 Oct 8 9 51 8 15 83 Nov 6 22 85 7 5 43 Dec 6 11 10 6 18 46 800. F.E. Feil . (3 12 47 3 16 56 18 7 9 18 12 84 April . (2 2 50 1 20 26 Si 15 48 31 6 38 JUNY . 21 15 2 11 10 MAY . (2 2 50 1 20 26 Si 15 48 30 6 38 JUNE . (2 2 50 1 20 26 Si 15 48 30 Oct (3 11 15 48) JUNE . (2 2 50 1 20 26 Si 15 48 30 Oct (3 11 18 18) Oct (4 18 1 4 2 14 Dec (4 18 1 4 2 21 Dec (4 18 1 4 2 21 Dec (4 18 1 4 20 4 21 Dec (4 18 1 4 20 4 21 Dec (4 18 1 4 20 4 21 Dec (4 18 1 4 20 4 21 Dec (4 18 1 4 20 4 21 Dec (4 18 1 4 20 4 20 4 20 4 20 4 20 4 20 4 20 4 | | MAR. | 15 16 48 | 15 11 50 | | | | |
| MAY . 13 18 11 13 11 84 June . 12 6 55 12 1 28 July . 11 19 39 11 16 87 Aug (10 8 23 10 8 81 O (25 2 45 24 17 44 Sept 8 21 7 9 0 21 Oct 8 9 51 8 15 38 Nov 6 22 85 7 5 48 Dec 6 11 10 6 18 46 900. Feb (8 12 47 3 16 56 O (18 7 9 18 12 34 April . 2 11 15 2 11 19 Aug (8 1 5 4 7 9 18 12 34 April . 2 11 15 2 11 19 Aug (8 1 5 4 8 8 8 9 1 8 15 8 8 8 9 1 8 15 8 8 1 8 1 8 4 8 8 1 5 2 8 8 1 9 1 8 1 8 1 8 1 8 1 8 1 8 1 8 1 8 | | | 1 | | 10 0 11 | | | |
| JUNE. 12 6 55 12 1 28 JULY. 11 19 39 11 16 37 AUG. 10 8 23 10 8 31 O | ! | | | | | | | |
| July 11 19 89 | | | | | | | | |
| Aug {10 8 25 10 8 81 | | | | | | | | |
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| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
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| 16 0 54 | MAR | 26 0 26 | 25 19 37 | 15 18 20 | MAR | 22 15 36 | 23 3 32 |
| | APRIL | 24 13 10 | 24 6 21 | | APRIL | 21 4 20 | 21 12 11 |
| | MAY. | 24 1 54 | 23 18 21 | | MAY. | 20 17 4 | 20 19 19 |
| , | June . | 22 14 38 | 22 7 59 | | June . | 19 5 48 | 19 1 59 |
| | JULY. | 22 3 22 | 21 23 11 | | July . | 18 18 32 | 18 9 17 |
| | Aug | 20 16 6 | 20 15 23 | | Aug | 17 7 16 | 16 18 19 |
| | SEPT | 19 4 50 | 19 7 47 | | SEPT | 15 20 0 | 15 6 0 |
| | Oct | 18 17 34 | 18 23 37 | | Oct. | 15 8 44 | 14 20 45 |
| | Nov | 17 6 18 | 17 14 18 | | Nov | 13 21 28 | 13 14 18 |
| | DEC | 16 19 2 | 17 3 33 | | DEC | (13 10 12 | 13 9 38 |
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| 918. | JAN | 15 7 47 | 15 15 16 | | - | 44 00 55 | 10 |
| D. | FEB | (13 20 31 | 14 1 31 | 92 i. G. | JAN | 11 22 57 | 12 5 5 |
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| | APRIL | 13 21 59 | 13 19 4 | | APRIL | 10 13 9 | |
| | MAY . | 13 10 43 | 13 3 44 | | MAY . | 10 1 53 | 10 11 45 |
| | June . | 11 23 27 | 11 13 35 | | JUNE. | $\begin{cases} 8 & 14 & 37 \\ 23 & 8 & 59 \end{cases}$ | 8 19 17 23 5 12 |
| | JULY. | 11 12 11 | 11 1 27 | | O July . | 8 3 21 | 23 5 12 8 2 3 |
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| | SEPT | 8 13 39 | 8 8 12 | | Oct | 4 17 33 | 4 4 26 |
| | Ocr | 8 2 23 | 8 2 0 | | Nov. | 3 6 17 | 2 17 58 |
| | Nov | 6 15 7 | 6 19 59 | | DEC. | (2191 | 2 10 4 |
| | DEC | 6 3 51 | 6 12 58 | | 0 | 17 13 23 | 17 19 57 |
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| 919. | JAN | 4 16 36 | 5 4 0 | 922. | JAN | $\begin{cases} 1 & 7 & 45 \\ 22 & 22 & 23 \end{cases}$ | 1 4 18 |
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| | APRIL | 3 6 48 | 3 11 40 | | | 29 10 41 | 31 9 42 29 23 9 |
| | MAY . | 2 19 32 | 2 19 7 | | APRIL MAY. | 28 23 25 | 29 25 9 |
| | June . | $\begin{cases} 1 & 8 & 16 \\ 22 & 24 \end{cases}$ | 1 2 25 | | | (12 17 47 | 12 8 26 |
| | - · | 130 21 0 | 30 10 39 | | O June . | 27 12 9 | 27 18 86 |
| | July . | 30 9 44 | 29 20 51 | | JULY. | 27. 0 53 | 27 2 14 |
| | \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ \ | {14 4 6 | 14 9 25 | | Aug | 25 13 37 | 25 9 55 |
| | AUG | 28 22 28 | 28 9 48 | | SEPT. | 24 2 21 | 23 18 32 |
| | SEPT | 27 11 12 | 27 1 42 | | Ост | 23 15 5 | 23 4 49 |
| | 3T | 26 28 56 | 26 19 54 | | Nov | 22 3 49 | 21 17 6 |
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| JAN. | Mean New Moon. (O Full Ecl.) (d. h. m. | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | Trne New Moon. |
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| MAR APRIL MAY . O | 20 6 46 18 19 30 18 8 14 $\begin{cases} 2 & 2 & 36 \\ 16 & 20 & 58 \end{cases}$ | 20 10 42 19 3 13 18 17 51 1 18 50 | 16 5 14 | MAR O APRIL MAY. | 15 10 40 14 23 24 | 16 18 32 [1 5 33 [15 4 35] 14 15 39 13 4 16 |
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| Nov Dec | 11 12 88 11 1 22 | 11 6 36 10 18 3 | | Oct Nov Dec | 9 15 4 8 3 48 7 16 32 | 9 19 41 8 11 17 8 1 28 |
| FEB MAR APRIL MAY . | 8 2 51 8 15 35 7 4 19 6 17 3 | 7 20 42 8 11 44 7 8 31 6 19 27 | 927. g. 16 11 2 | JAN FEB MAR APRIL | 6 5 16 4 18 0 6 6 45 4 19 29 4 8 18 | 6 14 0 5 0 53 6 10 20 4 18 48 4 3 3 |
| July . Aug Sept | 5 5 47 4 18 31 3 7 15 1 19 59 (1 8 48 | 5 10 49 5 1 0 3 13 44 2 1 13 1 11 58 | | June . July . Aug | $ \begin{array}{cccccccccccccccccccccccccccccccccccc$ | 2 12 1 1 22 41 31 11 44 30 3 15 14 2 38 |
| Nov Dec | | 80 22 31 29 9 11 28 20 7 | | SEPT Oct Nov | 28 23 53 28 12 37 27 1 21 | 28 20 41 28 14 57 27 8 46 27 1 0 |
| MAR O APRIL MAY | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 25 19 1 27 7 27 11 19 81 1 25 20 55 5 25 11 27 | 928. F.E. 15 16 51 | FEB. MAR. APRIL | 28 15 88 24 4 17 22 17 1 22 5 45 | 25 14 53 24 2 19 24 11 34 22 19 19 22 2 25 |
| JULY AUG. SEPT. O | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 3 28 18 10 7 22 9 5 1 20 28 9 8 4 22 11 5 20 12 14 0 19 0 26 | | JULY O AUG. SEPT. OCT. | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | 18 6 33 16 21 5 16 14 28 15 9 24 |
| | O JUNE . JULY . AUG . SEPT . OCT . NOV . DEC . JAN . FEB . MAR . APRIL MAY . JUNE . JULY . AUG . SEPT . O APRIL MAY . JUNE . JUNE . O APRIL MAY . JUNE . O APRIL MAY . JUNE . O APRIL MAY . O APRIL MAY . O APRIL MAY . O APRIL MAY . O APRIL MO . SEPT . O OCT . | O | O | O | O 2 2 36 | O JUNE. 12 2 36 |

| | | | | | | | · · · · · · · · · · · · · · · · · · · |
|----------------------------|--------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|---------------------------------------|
| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. |
| A.D. 929. | | d. h. m. | d. h. m. | A.D. 932. | | d. h. m. | d. h. m. |
| D. | JAN | (13 11 38 | 13 22 36 | A.G. | JAN | 11 2 48 | 10 19 37 |
| 35 1 | 0 | 123 6 0 | 28 0 8 | March. $d. h. m.$ | FEB | 9 15 32 | 9 12 19 |
| March. $d.$ $h.$ $m.$ | FEB | 12 0 22 | 12 13 57 | 15 16 7 | MAR. | 10 4 16 | 10 5 38 |
| 15 22 40 | MAR | 13 13 6 | 14 2 20 | | APRIL | 8 17 0 | 8 22 34 |
| | APRIL | 12 1 50 | 12 11 58 | | MAY. | (8 5 41 | 8 14 9 |
| | MAY . | 11 14 34 | 11 19 39 | | 0 | 23 0 6 | 22 18 25 |
| 1 | JUNE . | 10 3 18 | 10 2 22 | | JUNE. | 6 18 28 | 7 8 47 |
| | JULY. | (9162 | 9 9 12 | | July. | 6 7 12 | 6 15 20 |
| | 0 | 24 10 24 | 24 15 0 | | Aug. | 4 19 56 | 5 1 19 |
| | Aug | 8 4 46 | 7 17 18 | | SEPT | 3 8 40 | 3 10 32 |
| | SEPT. | 6 17 30 | 6 3 38 | | Oct | 2 21 24 | 2 19 48 |
| | Oct | 6 6 14 | 5 16 54 | | 001 | (110 8 | 1 5 48 |
| | Nov | 4 18 58 | 4 9 13 | | Nov. O | 16 4 30 | 16 6 59 |
| | Dec | 4 7 42 | 4 3 50 | | 1100.0 | 30 22 52 | 30 16 86 |
| | | | | | DEC. | 30 11 36 | 80 4 86 |
| 930. | JAN | (2 20 27 | 2 23 26 | | DEC | 00 11 00 | 50 ± 50 |
| c. | 0 | 17 14 49 | 17 14 14 | 933. | JAN | 29 0 21 | $28\ 17\ 45$ |
| | FEB | 1 9 11 | 1 18 15 | F. | FEB | 27 13 5 | 27 7 58 |
| 16 4 29 | MAR | 2 21 55 | 3 10 49 | 15 21 55 | MAR | 29 1 49 | 28 28 8 |
| | A ==== | (1 10 39 | 2 0 25 | | APRIL | 27 14 88 | 27 14 51 |
| . 1 | APRIL | 30 23 23 | (111 2 | | 0 | §12 8 55 | 12 11 10 |
| | MAY . | 30 12 7 | 30 19 23 | | MAY. | 27 3 17 | 27 6 80 |
| | June. | 29 0 51 | 29 2 25 | | June . | 25 16 1 | 25 21 28 |
| | 0 | (13 19 13 | (18 16 11 | | JULY. | 25 4 45 | 25 11 1 |
| | July. | 28 13 35 | 28 9 20 | | Aug | 23 17 29 | 28 28 21 |
| | Aug | 27 2 19 | 26 17 10 | | Sept | 22 6 13 | 22 10 42 |
| | SEPT | 25 15 3 | 25 2 49 | | Ocr | 21 18 57 | 21 21 32 |
| | Oct | 25 3 47 | 24 14 57 | | 0 | 5 18 19 | 5 6 11 |
| | Nov | 23 16 31 | 23 5 49 | | Nov | (20 7 41 | 20 8 17 |
| | DEC | 23 5 15 | 22 23 4 | | Dec | 19 20 25 | 19 19 6 |
| | 0 | (6 23 37 | 7 6 4 | 934. | JAN | 18 9 9 | 18 6 3 |
| 931. | JAN. | (21 17 59 | 7 6 4 21 17 41 | E. | FEB | 16 21 53 | 16 17 15 |
| В. | FEB. | 20 6 43 | 20 12 18 | 16 3 44 | MAR | 18 10 37 | 18 4 58 |
| 16 10 18 | MAR. | 21 19 27 | 20 12 18 22 5 31 | | APRIL | 16 28 21 | 16 17 86 |
| 10 | APRIL | 20 8 11 | 20 20 19 | | 0 | 5 1 17 43 | 2 8 42 |
| | MAY. | 19 20 55 | 20 20 19 | | MAY . | (16 12 5 | 16 7 28 |
| | JUNE. | 18 9 39 | 18 18 1 | | JUNE. | 15 0 49 | 14 22 17 |
| | JULY. | 17 22 23 | 18 2 12 | | July. | 14 13 33 | 14 13 46 |
| | Aug | 16 11 7 | 16 9 55 | | Aug | 13 2 17 | 18 5 11 |
| | SEPT | 14 23 51 | 14 18 9 | | SEPT | 11 15 1 | 11 19 59 |
| | Ост | 14 12 35 | 14 3 41 | | Ост | (11 3 45 | 11 9 51 |
| | Nov. | 13 1 19 | 12 15 1 | | 0 | 25 22 7 | 25 9 20 |
| | DEC | 12 14 3 | 12 4 21 | | Nov | 9 16 29 | 9 22 45 |
| | | | | | DEC | 9 5 13 | 9 10 42 |
| | | | | 2 | | 5/ | |

| Monn Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Moan Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|-----------------------------|--------------------|---|--|--|--|--|---|
| 936. C.B. 937. A. 15 21 1 | JAN FEB | (C) Full Ect.) (C) d. h. m. 7 17 58 6 6 42 7 19 26 6 8 10 5 20 54 4 9 38 3 22 22 { 2 11 6 30 12 34 30 12 34 30 12 34 30 12 34 25 14 2 25 16 58 21 5 42 22 7 10 20 8 38 { 4 8 6 21 19 54 20 8 38 { 18 21 22 21 19 54 20 18 10 20 16 11 3 16 11 3 15 0 1 18 18 28 7 2 18 10 6 16 11 3 11 15 5 14 14 18 14 8 11 15 5 11 14 15 11 15 5 | d. h. m. 7 21 47 6 8 8 7 17 41 6 8 20 5 18 32 4 1 8 8 14 35 2 5 51 81 22 22 80 15 17 80 7 42 28 22 51 28 12 20 26 23 59 25 9 58 11 8 14 23 10 59 21 20 81 22 12 20 26 23 59 25 9 58 11 8 14 23 10 59 21 20 81 21 2 81 21 2 81 21 2 12 31 10 22 39 4 2 28 31 15 23 31 16 21 13 9 15 12 23 3 14 1 5 16 21 13 9 15 12 23 3 14 1 5 16 21 13 9 15 12 23 3 14 1 5 16 21 13 9 15 12 23 3 14 1 5 16 21 13 9 15 12 23 18 19 85 17 4 1 18 19 81 17 4 1 18 19 81 18 19 81 19 10 17 5 18 2 8 19 10 17 5 18 2 8 19 10 17 5 19 4 19 24 17 | Equinox. A.D. 938. G. March. d. h. m. 16 3 0 939. F. 16 8 48 | JAN FEB O MAR APRIL MAY . JUNE . JULY . AUG SEPT OCT NOV DEC O JAN. FEB. NOV DULY AUG. SEPT. OCT. NOV. DEC O JULY AUG. SEPT. OCT. NOV. DEC | d. h. m. 4 9 8 { 2 21 52 { 17 16 14 4 10 36 2 23 20 2 12 4 { 1 0 48 30 13 32 30 2 16 28 15 0 27 3 44 26 16 28 25 5 12 24 17 56 { 8 12 18 28 6 40 21 19 24 28 8 6 21 20 52 21 20 52 21 19 22 20 { 4 16 4 10 11 17 23 4 16 12 3 16 1 1 17 23 4 16 12 3 16 1 1 17 23 4 16 12 3 16 1 1 17 23 4 16 12 3 16 1 1 17 28 4 18 16 12 3 16 1 1 17 28 4 18 16 12 3 18 17 28 2 19 22 20 11 4 5 11 16 5 11 10 5 11 10 5 12 11 10 5 13 11 10 5 14 14 15 11 16 11 16 11 17 28 11 18 11 16 11 19 18 11 10 5 11 11 16 11 1 | d. h. m. 4 17 58 3 10 41 17 10 32 5 0 29 8 11 20 2 19 48 1 2 47 30 9 26 29 16 49 28 1 59 26 13 49 26 4 42 24 22 20 24 17 37 8 18 21 28 12 56 22 6 41 23 21 44 22 9 45 31 20 2 89 24 11 41 4 19 9 36 8 17 16 59 16 1 46 15 12 41 0 14 2 13 14 18 18 18 16 29 4 48 20 12 12 16 11 6 53 12 0 47 41 10 16 47 10 16 47 10 16 47 11 10 6 10 9 8 17 1 31 22 15 15 58 8 1 55 37 6 9 58 |
| | Oct. Nov Dec | 7 18 1 | 55 7 9 1 89 6 8 8 | 8 89 8 | Nov Dec | 2 11 | 10 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ed.) |
|----------------------------|----------------|------------------------------------|------------------------------------|----------------------------|--------|------------------------------------|--------------------------------|
| A.D. 941, | | d. h. m. | d. h. m. | A.D. 944. | | d. h. m. | d. h. m. |
| C. | т | ſ1 018 | | G.F. | JAN | 28 4 12 | 28 7 24 |
| 1 4 4 9 | JAN | ₹30 13 2 | 30 7 48 | d. h . m . | FEB | 26 16 56 | 26 17 9 |
| Marcn. | FEB | | | 15 13 52 | MAR | 27 5 40 | 27 2 27 |
| d h. m. 15 20 26 | MAR | ∫ 1 1 46 | 1 0 40 | | 0 | f11 0 2 | 11 12 46 |
| 15 20 20 | MAR. | 130 14 30 | 30 17 41 | | APRIL | 125 18 24 | 25 12 0 |
| | APRIL | 29 3 14 | 29 9 55 | | May . | 25 7 8 | 24 22 85 |
| | MAY . | 28 15 58 | 29 0 34 | | June. | 23 19 52 | 28 10 57 |
| | 0 | $\int 12 \ 10 \ 20$ | 12 2 5 | | July. | 23 8 86 | 28 1 20 |
| | June. | (27 4 42 | 27 13 15 | | Aug | 21 21 20 | 21 17 26 |
| | July. | 26 17 26 | 27 0 7 | | SEPT | 20 10 4 | 20 10 81 |
| | Aug | 25 6 10 | 25 9 51 | | 0 | ∫ 5 4 26 | 4 18 48 |
| 1 | Sept | 23 18 54 | 23 19 16 | | Oct | 19 22 48 | 20 8 48 |
| | Oct | 23 7 38 | 23 5 0 | | Nov | 18 11 82 | 18 19 89 |
| | Nov | 21 20 22 | 21 15 29 | | DEC | 18 0 16 | 18 10 10 |
| | Dec | 21 9 6 | 21 2 54 | | | | |
| 040 | т | 10 01 50 | 10 17 15 | 945. | JAN | 16 18 0 | 16 22 45 |
| 942. B. | JAN | 19 21 50 | 19 15 17 | 545. E. | FEB | 15 1 44 | 15 9 26 |
| | FEB. | 18 10 34 | 18 4 42 | 15 19 41 | MAR. | 16 14 28 | 16 18 81 |
| 16 2 15 | Mar. | 19 23 18 18 12 2 | 19 19 6 | 10 10 41 | APRIL | 15 8 12 | 15 2 85 |
| | APRIL May. | 18 0 46 | 18 10 21 | | MAY. | 14 15 56 | 14 10 26 |
| | JUNE. | 16 13 30 | 18 1 59 | | JUNE . | 18 4 40 | 12 19 6 |
| | JULY. | 16 2 14 | 16 17 19 | | July. | 12 17 24 | 12 5 87 |
| | Aug | 14 14 58 | 16 7 44 14 20 57 | | Aug | 11 6 8 | 10 18 89 |
| | SEPT | 13 3 42 | | | SEPT. | (9 18 52 | 9 10 20 |
| | Ост | 12 16 26 | 13 9 .1 12 20 20 | | 0 | 24 18 14 | 21 10 54 |
| | Nov. | 11 5 10 | 11 7 18 | | Ост | 9 7 86 | 9 4 8 |
| | DEC. | 10 17 54 | 10 18 9 | | Nov. | 7 20 20 | 7 22 50 |
| | 220 | 20 21 01 | 10 10 9 | | DEC. | 7 9 4 | 7 17 0 |
| 943. | JAN | 9 6 30 | 9 5 0 | | | | |
| Α. | FEB | 7 19 23 | 7 15 52 | | | | |
| 16 8 4 | MAR., | 987 | 9.30 | 946. | JAN | 5 21 49 | 6 9 23 |
| J. | APRIL | ∫ 7 20 51 | 7 14 49 | D. | FEB | 4 10 88 | 4 28 18 |
| | , 0 | 122 15 13 | 23 3 3 | 16 1 30 | MAR | 5 28 17 | 6 10 82 |
| | MAY. | 7 9 35 | 7 3 46 | | APRIL | 4 12 1 | 4 19 81 |
| | JUNE . | 5 22 19 | 5 17 59 | | MAY . | 4 0 45 | 4 2 57 |
| 1 | JULY. | 5 11 3 | 5 9 13 | | JUNE . | 2 13 29 | 2 9 51 |
| | Aug., | 3 23 47 | 4 0 53 | | JULY . | $\int 2 2 18$ | 1 17 16 |
| | SEPT | 2 12 31 | 2 16 19 | | | \81 14 57 | 81 2 19 |
| | | (2, 1 15 | 2 7 0 | | Aug., | 80 8 41 | 29 18 57 |
| | Oct, O | 16 19 37 | 16 6 19 | | SEPT | 28 16 25 | 28 4 88 |
| | 37 | 31 13 59 | 31 20 39 | | Oct | 28 5 9 | 27 22 6 |
| | Non | 30 2 43 | 90 0 44 | | Nov | 00 17 50 | 00 17 00 |
| | Nov., Dec., | 29 15 27 | 30 9 14 29 20 4 8 | | DEC. | 26 17 58 26 6 87 | 26 17 20 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ect.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|-------------------------------|---------------|------------------------------------|-----------------------------------|
| A.D. 947. c. | Jan | d. h. m. 24 19 21 | d. h. m. 25 6 40 | A.D. 950. | Jan | d. h. m. 21 10 31 | d. h. m. |
| March. | 0 | 8 13 43 23 8 5 | 8 8 31 23 21 55 | March. d. h. m. 16 0 45 | FEB MAR | 19.23 15 21 11 59 | 19 19 58 21 12 45 |
| d. h. m. | FEB. | 24. 20 49 | 25 10 7 | 10 0 40 | | 20 0 43 | 20 5 19 |
| 16 7 19 | MAR. | 23 9 33 | 23 19 35 | | APRIL MAY. | 19 13 27 | 19 20 47 |
| | APRIL | 22, 22, 17 | 23 3 7 | | | (3 7 49 | 3 1 45 |
| | MAY. | 21 11 1 | 21 9 47 | | June. | 18 2 11 | 18 10 31 |
| | JUNE . | 20 23 45. | 20 16 42 | | JULY. | 17 14 55 | 17 22 24 |
| | July. | (4 18 7 | 4 21 50 | | Aug. | 16 3 39 | 16 8 52 |
| | 0 | 19 12 29 | 19 0 56 | | SEPT. | 14 16 23 | 14 18 35 |
| 1 | Aug | 18 1 13 | 17 11 27 | | Oct. | 14 5 7 | 14 4 18 |
| | SEPT. | 17 13 57 | 17 0 53 | | Nov. | (12, 17, 51 | 12 14 32 |
| | Oct | 16 2 41 | 15 17 15 | | 0 | 27 12 13 | 27 14 56 |
| | Nov. | 15 15 25 | 15 11 52 | | DEC. | 12 6 35 | 12 1 31 |
| 1 | DEC | 15 15 25 | 10 11 02 | | DEC | 12 0 00 | |
| 948. | JAN | (14 4 10 | 14 -7 18 | 951. | JAN | 10 19 20 | 10 13 19 |
| B.A. | O AN. | 28 22 32 | 28 22 58 | E. | FEB | 984 | 9 1 59 |
| 1 | FEB | 12 16 54 | 18 1 55 | 16 6 34 | MAR | 10 20 48 | 10 15 35 |
| 15 13 8 | | | 13 18 20 | ii. | APRIL | 9 9 32 | 9 6 10 |
| 19 19 6 | APRIL | 44 40 () | 12 7 46 | 1 . | MAY . | 8 22 16 | 8 21 28 |
| | MAY | ^ | 11 18 20 | | 0 | 23 16 38 | 23 18 40 |
| | JUNE | 0 40 50 | 10 2 41 | | June. | 1 | 7 12 57 |
| | | | 9 9 54 | | JULY . | 1 | 7 8 58 |
| | Jura | 24 2 56 | | | Aug. | | 5 18 1 |
| | Aug. | | 7 17 3 | | SEPT. | | 4 6 54 |
| | SEPT. | 0 40 0 | 6 1 9 | | Ocr. | . 3 13 56 | 3 18 50 |
| | OUT. | | " - 1 | 1 | Nov. | . 52 240 | 1 |
| | Nov. | | 1 | | 0 | (16 21 2 | |
| | DEC. | - | | | DEC. | $\int 1 15 2$ | 1 |
| | DRC. | | | 1 | Date. | . 31 4 8 | 31 4 3 |
| 949. | JAN. | . (21259 | 2 7 11 | 952. | JAN. | . 29 16 58 | 29 14 45 |
| a. | 0 | [17, 7 2] | 1 17 14 58 | | FEB. | . 28 5 87 | 28 1 28 |
| | FEB. | 1. 1 48 | 1 1 26 | 15 12 2 | B MAR. | . 28 18 21 | 28 12 35 |
| 15 18 5 | 7 MAR. | . 2 14 27 | 2 19 40 | | APRI | L 27 7 5 | 5 27 0 39 |
| | | (1 81 | 1 1 12 86 | 3 | | (12 1 2 | |
| | APRI | L 80 15 5 | 5 (1 8 1 | 7 | MAY | 14 | 9 26 14 2 |
| | MAY | . 80 4 89 | . 11 | | June | . 25 8 3 | |
| İ | Junu | 20 04 | 3 29 1 14 | 1 | July | . 24 21 1 | l . |
| | JULY | 1 | 1 | 3 | Aug. | 23 10 | 1 23 12 11 |
| | Aug. | 1 00 40 7 | 1 26 17 49 | 9 | SEPT | 21 22 4 | 5 22 3 35 |
| | SEPT | | | 7 | OCT. | 01.11.0 | 9 21 18 3 |
| | Ocr. | | | 7 | 0 | (5 5 5 | 1 4 17 35 |
| | Nov. | | 3 22 23 4 | 4 | Nov. | . 20 0 | 1 |
| | DEC. | | 7 22 12 5 | 7 | DEC. | 1 | 57 1 9 19 33 |
| | | | | 1 | | | 1 |
| | | | | | | | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. (O Full Ecl.) |
|----------------------------|---------------|---|------------------------------|----------------------------|--------|-----------------|------------------------------|
| A.D. 953. | | d. h. m. | d. h. m. | A.D. 956. | - | d. h. m. | d. h. m. |
| B. March. | JAN | 18 1 41 | 18 6 38 | F.E. | JAN | 15 16 51 | 16 1 59 |
| \vec{d} . h . m . | Fев | 16 14 25 | 16 16 36 | Momoh | FEB | 514 5 85 | 14 18 37 |
| 15 18 12 | MAR | 18 3 9 | 18 1 50 | d. h . m . | 0 | 28 28 57 | 28 18 85 |
| | APRIL | 16 15 53 | 16 10 54 | 15 11 38 | MAR | 14 18 19 | 15 8 17 |
| | MAY . | 16 4 37 | 15 20 39 | | APRIL | 18 7 8 | 13 18 57 |
| | JUNE . | 14 17 21 | 14 7 54 | | MAY . | 12 19 47 | 13 8 16 |
| | JULY. | 14 6 5 | 13 21 13 | | June . | 11 8 31 | 11 10 12 |
| | Aug | 12 18 49 | 12 12 34 | | JULY . | 10 21 15 | 10 16 54 |
| | SEPT | 11 7 33 | 11 5 27 | | Aug | 9 9 59 | 9 0 25 |
| | Oct | 10 20 17 | 10 22 55 | | SEPT | 7 22 48 | 7 9 48 |
| | Nov | 9 9 1 | 9 15 50 | | Oct | 7 11 27 | 6 21 48 |
| | DEC | 8 21 45 | 9 7 23 | | Nov | 6 0 11 | 5 12 46 |
| | | | | | DEC | 5 12 55 | 5 6 28 |
| 954. | JAN. | 7 10 30 | 7 21 2 | | | | |
| Α. | FEB. | 5 23 14 | 6 8 36 | 957. | JAN | (4 1 40 | 4 1 32 |
| 16 0 1 | Mar. | (7 11 58 | 7 18 17 | ъ. | 0 | {18 20 2 | 18 22 18 |
| -0 0 1 | 0 | $\begin{cases} 22 & 6 & 20 \end{cases}$ | 22 10 21 | | FEB | 2 14 24 | 2 20 89 |
| | APRIL | 6 0 42 | 6 2 34 | 15 17 27 | MAR | 4 8 8 | 4 14 12 |
| | MAY . | 5 13 26 | 5 10 14 | | APRIL | 2 15 52 | 8 5 5 |
| 1 | JUNE . | 4 2 10 | 3 18 13 | | 7.0 | (2 4 86 | 2 17 0 |
| | July. | 3 14 54 | 3 3 36 | | MAY . | [31 17 20] | (1 2 22 |
| | ouli. | (2 3 38 | 1 15 18 | | JUNE . | 30 6 4 | 80 10 4 |
| | Αυα | 81 16 22 | 31 5 45 | | JULY. | 29 18 48 | 29 17 14 |
| | 0 | (15 10 44 | 15 10 29 | | Aug | 28 7 32 | 28 0 54 |
| | SEPT | 30 5 6 | 29 22 44 | | SEPT | 26 20 16 | 26 9 58 |
| | Ост. | 29 17 59 | 29 17 20 | | Oct | 26 9 0 | 25 21 6 |
| | Nov. | 28 6 34 | 28 12 7 | | Nov. | 24 21 44 | 24 10 40 |
| | DEC | 27 19 18 | 28 5 38 | | DEC | 24 10 28 | 24 2 81 |
| | DEC | 2. 10 10 | 20 0 00 | | | | |
| | т | 00 0 0 | 00 00 40 | | 0 | 58 4 51 | 8 18 89 |
| 955. G. | JAN | 26 8 3 24 20 47 | 26 20 53 | 958. | JAN | 22 28 18 | 22 20 10 |
| | FEB | | 25 9 21 | c. | FEB | 21 11 57 | 21 14 22 |
| 16 5 50 | MAR | 11 15 9 | 11 11 22 | 15 23 16 | Mar | 28 0 41 | 28 7 56 |
| 10 3 30 | | 26 9 31 24 22 15 | 26 19 14 | | APRIL | 21 18 25 | 21 28 48 |
| | APRIL MAY. | | 25 3 13 | | MAY . | 21 2 9 | 21 18 6 |
| | | 24 10 59 | 24 10 9 | | June . | 19 14 58 | 20 0 5 |
| | JUNE . | 22 23 43 | 22 17 7 | | 0 | 5 4 9 15 | 8 22 8 |
| | JULY. | 22 12 27 | 22 1 12 | | July . | [19 8 37 | 19 9 17 |
| | Aug | 21 1 11 | 20 11 28 | | Aug | 17 16 21 | 17 17 88 |
| | O Sept | 4 19 33 | 5 0 44 | | SEPT | 16 5 5 | 16 2 8 |
| | | 19 13 55 | 19 0 42 | | Ост | 15 17 49 | 15 11 29 |
| | Nov. | 19 2 39 | 18 16 57 | | Nov | 14 6 83 | 18 22 11 |
| | 70 | 17 15 28 | 17 11 34 | | DEC | (18 19 17 | 18 10 29 |
| | DEC | 17 4 7 | 17 7 8 | | 0 | 28 18 39 | 29 0 42 |
| | | l i | | | | н | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. () Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------|----------------------------|----------|------------------------------------|------------------------------|
| A.D. 959. | | d. h. m. | d. h. m. | A.D. 962. | | d. h. m. | d. h. m. |
| В. | JAN | 12 8 1 | 12 0 23 | E. | JAN | 8 23 11 | 9 5 41 |
| March. d. h. m. | FEB | 10 20 45 | 10 15 42 | March. $d. h. m.$ | FEB | 7 11 55 | 7 16 3 |
| 16 5 5 | MAR | 12 9 29 | 12 8 0 | 15 22 31 | MAR. | 9 0 39 | 9 1 24 |
| | APRIL | 10 22 13 | 11 0 34 | | APRIL | (7 13 23 | 7 10 13 |
| | MAY . | 10 10 57 | 10 16 33 | | 0 | 22 7 45 | 22 19 51 |
| | June . | (8 23 41 | 9 7 12 | | MAY . | 7 2 7 | 6 19 17 |
| | 0 | 23 18 3 | 23 9 21 | | June . | 5 14 51 | 5 5 31 |
| | July. | 8 12 25 | 8 20 7 | | JULY. | 5 3 35 | 4 17 39 |
| | Aug | 7 1 9 | 7 7 27 | | Aug | 3 16 19 | 3 8 2 |
| | SEPT | 5 13 53 | 5 17 42 | | SEPT | 2 5 3 | 2 0 24 |
| | Our | 5 2 37 | 5 3 36 | | | ; 1 17 47 | 1 17 55 |
| | Nov | 3 15 21 | 3 13 44 | | Oct. O | 16 12 9 | 16 3 15 |
| | DEC | 3 4 5 | 3 0 24 | | | 31 6 31 | 31 11 29 |
| | | | | | Nov | 29 19 15 | 30 4 2 |
| | | | | | DEC | 29 7 59 | 29 18 46 |
| 960. | JAN | 1 16 50 | 1 11 44 | | | | |
| A.G. | | (31 5 34 | 30 23 46 | 963. | JAN | 27 20 44 | 28 7 22 |
| | FEB | 29 18 18 | 29 12 36 | D. | FEB. | 26 9 28 | 26 17 49 |
| 15 10 54 | MAR | 80 7 2 | 30 2 23 | 16 4 20 | MAR. | 27 22 12 | 28 2 34 |
| | APRIL | 28 19 46 | 28 17 7 | 10 120 | 0 | (11 16 34 | 11 22 10 |
| | MAY . | 28 8 30 | 28 8 27 | | APRIL | 26 10 56 | 26 10 15 |
| | June. | 26 21 14 | 26 23 47 | | MAY . | 25 23 40 | 25 17 48 |
| | July. | 26 9 58 | 26 14 82 | | June . | 24 12 24 | 24 2 15 |
| | Aug | 24 22 42 | 25 4 16 | | JULY . | 24 1 8 | 23 12 39 |
| | SEPT | 28 11 26 | 23 16 57 | | Aug | 22 13 52 | 22 1 44 |
| | Oct | 23 0 10 21 12 54 | 23 4 48 | | SEPT | 21 2 36 | 20 17 38 |
| | Nov. | 21 12 34 21 1 38 | 21 18 8 | | 0 | (5 20 58 | 5 19 19 |
| | DEC | 21 1 50 | 21 5 6 | | Ocr | 20 15 20 | 20 11 43 |
| | 1 | | | | Nov | 19 4 4 | 19 6 46 |
| 961. | JAN | 19 14 28 | 19 13 50 | | DEC | 18 16 48 | 19 1 12 |
| P. | FEB | 18 8 7 | 18 0 17 | | | | |
| 15 16 48 | MAR | 19 15 51 | 19 10 51 | 964. | JAN | 17 5 32 | 17 17 44 |
| | APRIL | 18 4 85 | 17 22 7 | C.B. | FEB | 15 18 16 | 16 7 33 |
| | 0 | (2 22 57 | 3 10 28 | 15 10 9 | MAR | 16 7 0 | 16 18 35 |
| | MAY . | 17 17 19 | 17 10 34 | | APRIL | 14 19 44 | 15 3 17 |
| | JUNE . | 16 6 3 | 16 0 30 | | MAY . | 14 8 28 | 14 10 31 |
| | July . | 15 18 47 | 15 15 48 | | JUNE . | 12 21 12 | 12 17 15 |
| | Aug. | 14 7 81 | 14 7 41 | | July . | 12 9 56 | 12 0 37 |
| | SEPT. | 1 1 | 12 23 40 | | Aug. | 10 22 40 | 10 9 43 |
| | Ocr. | . \ \ 12 \ 8 59 | 1 | | SEPT. | 9 11 24 | 1 |
| | 0 | 27 8 21 | | | Ocr. | . 908 | |
| | Nov. | . 10 21 43 | 1 | | Nov. | | |
| | DEC. | . 10 10 27 | 10 18 4 | | DEC. | . 7 1 86 | 7 1 17 |
| | | | | 11 | <u> </u> | 1 | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|----------|--|------------------------------|----------------------------|----------------|------------------------------------|------------------------------|
| A.D. 965. | | d. h. m. | d. h. m. | A.D. 968. | | d. h. m. | d. 72. nz. |
| A. | JAN | 5 14 21 | 5 20 44 | E.D. | JAN | 3 5 31 | 2 21 32 |
| March. | FEB | (4 3 5 | 4 14 36 | March. | FEB | 1 18 15 | 1 11 57 |
| d. h. m. | 0 | 18 21 27 | 18 16 49 | d. h. m. 15 9 24 | MAR | 2 6 59 | 2 3 32 |
| 15 15 58 | MAR | 5 15 49 | 6 5 45 | 10 0 22 | | (31 19 43 | 31 19 48 |
| | APRIL | 4 4 33 | 4 17 47 | | APRIL | 30 8 27 | 30 12 0 |
| | Max . | 3 17 17 | 4 3 7 | | MAY. | 29 21 11 | 30 8 20 |
| | June . | 2 6 1 | 2 10 34 | | ~ 0 | 13 15 33 | 13 9 6 |
| | July. | $\begin{bmatrix} 1 & 18 & 45 \\ 31 & 7 & 29 \end{bmatrix}$ | 1 17 16 31 0 19 | | June. July. | 28 9 55 27 22 39 | 28 17 14 28 5 31 |
| | 0 | (15, 1.51 | 15 4 46 | | Aug | 26 11 23 | 26 16 80 |
| | Aug | 29 20 13 | 29 8 44 | | Sept | 25 0 7 | 25 2 46 |
| | SEPT | 28 8 57 | 27 19 27 | | Ост | 24 12 51 | 24 12 57 |
| | Oct | 27 21 41 | 27 9 1 | | Nov | 28 1 85 | 22 23 28 |
| | Nov | 26 10 25 | 26 1 23 | | 0 | 7 19 57 | 7 22 56 |
| | DEC | 25 23 9 | 25 19 51 | | DEC | (22 14 19 | 22 10 27 |
| | | | | 969. | JAN | 21 3 4 | 20 21 59 |
| 966. e. | JAN | 24 11 54 | 24 15 6 | C. | FEB | 19 15 48 | 19 10 8 |
| | _ 0 | 8 6 16 | 8 7 37 | 15 15 13 | MAR | 21 4 82 | 20 28 7 |
| 15 01 47 | FEB. | (23 0 38 | 23 9 29 | | APRIL | 19 17 16 | 19 18 7 |
| 15 21 47 | MAR. | 24 13 22 | 25 1 41 | | MAY. | 19 6 0 | 19 4 1 |
| | APRIL | 23 2 6 | 23 15 1 | | 0 | (8 0 22 | 3 2 8 |
| | MAY . | 22 14 50 21 3 34 | | | JUNE. | 17 18 44 | 17 19 28 |
| | JUNE . | 20 16 18 | 21 10 1 20 17 26 | 1 | July. | 17 7 28 | 17 10 85 |
| | 1 | (4 10 40 | 4 5 25 | | Aug | 15 20 12 | 16 1 5 |
| | Aug. | 19 5 2 | 19 0 51 | | SEPT | 14 8 56 | 14 14 81 |
| | SEPT. | 17 17 46 | 17 9 18 | | Oct | 13 21 40 | 14 8 7 |
| - | Oct | 17 6 30 | 16 19 28 | | Nov | ∫12 10 24 | 12 14 55 |
| | Nov. | 15 19 14 | 15 7 51 | | 0 | 27 4 46 | 26 22 6 |
| | Dec. | 15 7 58 | 14 22 33 | | DEC | 11 23 8 | 12 2 10 |
| | | | | 970. | JAN | 10 11 52 | 10 12 57 |
| 967. | JAN | ∫13 20 42 | 13 15 14 | В. | FEB | 9 0 36 | 8 28 20 |
| F. | 0 | 28 15 4 | 28 23 34 | 15 21 2 | MAR | 10 13 20 | 10 9 88 |
| 1 | FEB | 12. 9 26 | 12 9 3 | | APRIL | 9 2 4 | 8 20 6 |
| 16 3 36 | MAR. | 13 22 10 | 14 2 54 | H | MAY . | 8 14 48 | 8 7 38 |
| | APRIL | 12 10 54 | 12 19 32 | | 0 | 23 9 10 | 23 18 28 |
| | MAY. | 11 23 38 | 12 10 7 | | JUNE. | 7 3 32 | 6 20 88 |
| | JUNE . | 10 12 22 | 10 22 19 | | JULY. | 6 16 16 | 6 11 18 |
| | JULY . | 10 1 6 | 10 8 28 | | Aug | 5 5 0 | 5 8 0 |
| | AUG | 8 13 50 | 8 17 18 | | SEPT | 3 17 44 | 8 19 17 |
| | OCT. | 7. 2.34 | 7 1 49 | H | Oct | 3 6 28 | 8 11 15 |
| | Nov. | 6 15 18 5 4 2 | 6 10 52 | | Nov. | 1 19 12 | 2 2 20 |
| | DEC. | 1 10 10 | 4 21 1 4 8 31 | | 0 | (16 13 34 | 16 1 55 |
| İ | | # TO #0 | # 0 91 | | DEC | 1 7 56 | 1 16 6 |
| * | <u> </u> | 1 | 1 | lit. | 1 | 1 30 20 40 | 31 4 28 |

| Mean Vernal Equipox, | Month. | Mean New Moon, (O Full Ect.) (| True New Moon, O Full Ecl. | Mean Vernal Equinox. | Month, | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|--------------------------------------|----------------------------------|----------------------------|--|------------------------------------|------------------------------------|
| A.D. 971. | | d. h. m. | d. h. m. | A.D. 974. | ANT THE OTHER DESIGNATION OF THE PERSON OF T | d. h. m. | d. h. m. |
| A | JAN | 29 9 25 | 29 15 22 | D. | JAN | 26 0 85 | 26 9 54 |
| March. d, h, m | FER | 27 22 9 | 28 1 1 | Mamal. | FEB | 24 18 19 | 25 2 26 |
| 16 2 51 | MAR | 29 10 58 | 20 9 40 | March. | O | (11 7 41 | 11 2 82 |
| | Aran. | 27 28 87 | 27 18 25 | 15 20 17 | MAR | 26 2 3 | 26 15 57 |
| | MAY . | 27 12 21 | 27 8 45 | | APRIL | 24 14 47 | 25 2 29 |
| | June . | 26 1 5 | 25 14 48 | | MAY. | 24 8 81 | 24 10 48 |
| | July . | 25 18 49 | 25 8 57 | | June . | 22 16 15 | 22 17 40 |
| 1 | Ava | 24 2 88 | 28 19 29 | | July. | 22 4 59 | 22 0 27 |
| | SEPT | 22 15 17 | 22 12 48 | | Aug | 20 17 48 | 20 8 11 |
| No. | Oct | 22 4 1 | 22 6 88 | | SEPT | 19 6 27 | 18 17 47 |
| | Nov | 20 16 45 | 21 0 8 | | Ост | 18 19 11 | 18 5 57 |
| | DEC | 20 5 29 | 20 15 55 | | Nov | 17 7 55 | 16 20 59 |
| | | | | | Drc | 16 20 89 | 16 14 29 |
| 972. | JAN | 18 18 14 | 19 5 40 | | | | |
| Q.F. | FRB | 17 6 58 | 17 17 4 | 975. | JAN | 15 9 28 | 15 9 24 |
| 15 8 40 | MAR | 17 19 42 | 18 2 27 | C. | FEB. | 18 22 7 | 14 4 16 |
| | 0 | 1 (1 14 4 | 1 17 19 | 16 2 6 | MAR. | 15 10 51 | 15 21 88 |
| | Arkit | (16 B 26) | 16 10 28 | 20 20 | APRIL | 18 28 85 | 14 12 17 |
| | MAY . | 15 21 10 | 15 17 48 | | MAY. | 18 12 19 | 14 0 10 |
| | JURK . | 14 9 54 | 14 1 28 | | JUNE . | 12 1 8 | 12 9 86 |
| | Jun . | 18 22 88 | 18 10 48 | | July . | 11 18 47 | 11 17 80 |
| | Ava | 12 11 22 | 11 22 25 | | Aug. | 10 2 81 | 10 0 56 |
| | BEPT | 311 0 6 | 10 18 0 | | SEPT. | 8 15 15 | 8 8 56 |
| | 0 | \$52 IR 58 | 25 18 46 | | Ocr | 8 8 59 | 7 18 19 |
| | Oct | 10 12 50 | 10 6 15 | | Nov | 6 16 48 | 6 5 89 |
| | Nov | 9 1 84 | 9 1 8 | | DEC | 6 5 27 | 5 19 10 |
| | Dac. | 8 14 18 | 8 20 11 | | | | |
| 973. | JAN | 7 8 2 | 7 18 54 | 976. | JAN | (4 18 12 | 4 10 50 |
| 8. | Fan. | 5 15 48 | 6 5 6 | B.A. | 0 | 19 12 84 | 19 22 21 |
| 15 14 20 | MAR. | | 7 17 25 | | FEB | 8 6 56 | 8 8 59 |
| | 0 | 21 22 52 | 21 18 48 | 15 7 55 | MAR | 8 19 40 | 8 21 44 |
| | APRIL | | 6 8 6 | | APRIL | 2 8 24 | 2 14 55 |
| | MAY | | 5 10 50 | | MAY . | { 1 21 8 | 1 |
| | June | | 8 17 86 | | | 181 9 52 | |
| | Jun | | 8 0 80 | | JUNK . | 29 22 86 | 80 7 8 |
| | | e 1 20 10 | 1 8 87 | | 0 | (14 16 58 | 14 5 5 |
| | Atia. | . 81 8 24 | 80 19 1 | | July . | | 29 16 42 28 1 80 |
| | 0 | (15 8 16 | 15 8 88 | | Aug. | 1 | 10 |
| | Bert. | . (29 21 88 | 20 8 22 | | SEPT. | | |
| | Oct. | | | 11 | 1 | 26 1 82 | 1 |
| | Nov. | . 27 28 6 | 27 19 28 | | Nov. | | |
| | DEC. | . 27 11 50 | 27 15 4 | | DEC. | 24 0 | 20 10 12 |
| 1 | | | | 11 | Ť | 1 | 1 |

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| | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. () Full Ecl.) |
|---|----------------------------|--------|---|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------|
| - | A.D. | | d. h. m. | d. h. m. | A.D. 980. | | d. h. m. | d. h. m. |
| | 977. G. | _ / | (7 21 22 | 8 9 7 | D.C. | JAN | 20 6 55 | 20 14 29 |
| | ٠. | 0 | 22 15 45 | 22 8 45 | March. | FEB | 18 19 39 | 19 0 86 |
| | March. | JAN | 21 4 29 | 20 23 31 | d. h. m. 15 7 10 | MAR. | 19 8 23 | 19 9 32 |
| | d. h. m. | FEB | 1 | 20 25 31 22 15 13 | 15 / 10 | APRIL | 17 21 7 | 17 17 54 |
| | 15 13 44 | MAR. | 22 17 13 | | | | (2 15 29 | 3 2 47 |
| | | APRIL | 21 5 57 | 21 7 19 | | MAY. | 17 9 51 | 17 2 84 |
| | | MAY . | 20 18 41 | 20 23 4 | | | 15 22, 35 | 15 12 28 |
| 1 | | June . | 19 7 25 | 19 13 48 | | JUNE. | | 15 0 27 |
| | | _ 0 | \[\begin{pmatrix} 4 & 1 & 47 \\ 10 & 00 & 0 \\ \end{pmatrix} | 3 16 38 | | JULY. | 15 11 19 14 0 8 | 13 14 54 |
| | 1 | JULY. | 18 20 9 | 19 3 3 | | Aug | | |
| 1 | | Aug | 17 8 53 | 17 14 52 | | SEPT | 12 12 47 | |
| | | SEPT | 15 21 37 | 16 1 41 | | Oct | 12 1 31 | 12 1 27 |
| | | Oct | 15 10 21 | 15 12 6 | | 0 | (26 19 58 | 26 11 52 |
| | | Nov | 13 23 5 | 13 22 35 | | Nov | 10 14 15 | 10 19 29 |
| 1 | | DEC | 13 11 49 | 13 9 23 | | DEC | 10 2 59 | 10 12 26 |
| 1 | 978. | JAN | 12 0 33 | 11 20 32 | 001 | Jan | 8 15 48 | 9 3 21 |
| 1 | F. | FEB | 10 13 17 | 10 8 8 | 981. B. | 1 | 7 4 27 | 7 15 52 |
| | 15 19 83 | MAR | 12 2 1 | 11 20 22 | | FEB | 8 17 11 | 9 2 5 |
| | | APRIL | 10 14 45 | 10 9 32 | 15 12 59 | MAR. | | 7 10 29 |
| | | MAY . | 10 3 29 | 9 23 47 | | APRIL | 7 5 55 | |
| | | JUNE . | 8 16 13 | 8 14 53 | | 0 | 22 0 17 | |
| | | JULY. | 8 4 57 | 8 6 17 | | MAY. | 6 18 89 | |
| | | Aug | 6 17 41 | 6 21 24 | | JUNE. | 5 7 28 | |
| 1 | | SEPT. | 5 6 25 | 5 1 1 40 | | JULY . | 4 20 7 | 4 9 25 |
| | | Oct. | 4 19 9 | 5 0 58 | | Aug | 3 8 51 | 2 19 48 |
| 1 | | Nov. | 3 7 53 | 3 13 23 | | SEPT | 1 21 35 | 1 8 58 |
| 1 | | DEC | 2 20 37 | 3 1 3 | | | (1 10 19 | 1 1 4 |
| 1 | | | | | | Oct. O | 316 4 41 | 16 8 52 |
| 1 | 070 | Tim | 1 9 22 | 1 12 7 | | | 30 23 3 | 80 19 25 |
| - | 9 7 9. | JAN | 30 22 6 | 30 22 33 | | Nov | 29 11 47 | 29 14 44 |
| 1 | _ - | FEB | ••• | ••• | | DEC | 29 0 81 | 29 9 28 |
| 1 | 16 1 22 | MAR | ſ 1 10 50 | 1 8 34 | | | | |
| 1 | 10 1 22 | AB. | (30 23 34 | 30 18 36 | 982. | JAN | 27 13 16 | 28 1 57 |
| | | APRIL | 29 12 18 | 29 5 17 | Δ. | FEB | 26 2 0 | 26 15 42 |
| | | 0 | ∫14 6 40 | 14 17 45 | 15 18 48 | MAR | 27 14 44 | 28 2 80 |
| 1 | | MAY . | 29 1 2 | 28 17 18 | | APRIL | 26 3 28 | 26 10 58 |
| 1 | | JUNE. | 27 13 46 | 27 7 1 | | MAY . | 25 16 12 | 25 18 1 |
| | | Jura. | 27 2 30 | 26 22 20 | | JUNE . | 24 4 56 | 24 0 41 |
| - | | Aug | 25 15 14 | 25 14 37 | | JULY. | 23 17 40 | 28 8 4 |
| 1 | | SEPT | 24 3 58 | 24 7 5 | | AυG | 22 6 24 | 21 17 16 |
| 1 | | Oct | 23 16 42 | 23 22 58 | | SEPT | 20 19 8 | 20 5 10 |
| į | | 0 | 5 7 11 4 | 6 23 0 | | Ост | 20 7 52 | 19 20 9 |
| | | Nov. | 122 5 26 | 22 13 40 | | Nov | 18 20 86 | 18 18 58 |
| | | DEC. | 21 18 10 | 22 2 52 | | DEC | 18 9 20 | 18 9 15 |
| - | | l | 1 | 1 | | 1 | 1 | |

| | | The Transmission and designation are | MUDALIAN (| VIVIL TIME. | and the second s | ************************************** | |
|----------------------------|--------|--------------------------------------|---------------------------------|----------------------------|--|---|-----------------------------|
| Mean Vernal Equinox, | Month. | Mean New Moon. O Full Ecl.) | True New Moon. Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
| A.D. 983. | | d. h. m. | d. h. m. | A.D. 986. | | d. h. m. | d. h. m. |
| 13. | JAN | 16 22 5 | 17 4 40 | C. March. | JAN | 13 13 15 | 13 6 5 |
| March. | Fan | 15 10 49 | 15 22 24 | d. h. m. | FEB | 12 1 59 | 11 20 0 |
| d h. m. | O | 12 5 11 | 2 1 0 | 15 18 8 | MAR | 18 14 48 | 18 10 59 |
| 16 0 87 | MAR. | 116 23 88 ₁ | 17 18 28 | | APRIL | 12 3 27 | 12 2 41 |
| į | APRIL | 15 12 17 | 16 1 17 | | MAY. | 11 16 11 | 11 18 88 |
| | MAY . | 15 1 1 | 15 10 82 | | JUNE. | ∫10 4 55 | 10 9 52 |
| | Junk . | 18 18 45 | 18 17 59 | | 0 | 124 23 17 | 24 16 28 |
| | July . | | 18 0 46 | | JULY. | 9 17 89 | 10 0 0 |
| | Ara | 1 | 11 8 1 | | Aug | 8 6 28 | 8 12 44 |
| | 0 | | 26 11 47 | | SEPT | 6 19 7 | 7 0 16 |
| | SEPT | 10 8 57 | 9 16 41 | | Ocr | 6 7 51 | 6 11 5 |
| | Oct | 9 16 41 | 9 8 87 | | Nov. | 4 20 85 | 4 21 42 |
| | Nov | 8 5 25 | 7 17 16 | | DEC | 4 9 19 | 4 8 26 |
| | DEC | 7 18 9 | 7 9 85 | | 0 | 19 8 41 | 19 6 57 |
| 984. | JAN | 6 6 53 | 6 8 51 | 987. | JAN | 2 22 3 | 2 19 21 |
| F.E. | FRH. | (4 19 87 | 4 22 46 | в. | FEB | 1 10 47 | 1 6 32 |
| | O | 19 18 59 | 19 16 8 | 15 28 52 | MAR | 2 23 31 | 2 18 9 |
| 15 6 26 | MAR | 5 8 21 | 5 16 52 | | APRIL | 1 12 15 | 1 6 31 |
| | Arnie | 8 21 5 | 4 8 50 | | 74 | J 1 0 59 | (30 19 58 |
| | MAY . | 8 9 49 | 8 22 6 | | MAY. | 80 18 48 | 80 10 80 |
| | June . | 1 22 83 | 2 8 48 | | 0 | [14 8 5 | 14 9 38 |
| | 1 | f 1 11 17 | 1 17 20 | | June. | (29 2 27 | 29 1 49 |
| | July. | 181 0 1 | 81 1 1 | | July. | 28 15 11 | 28 17 16 |
| | O | £ 14 18 28 | 14 12 11 | | Aug | 27 8 55 | 27 8 15 |
| | Aug | 29 12 45 | 20 8 48 | | SEPT | 25 16 89 | 25 22 21 |
| | Вкрт | 2 1 29 | 27 17 85 | | Ocr | 25 5 28 | 25 11 28 |
| | Oct | 27 14 18 | 27 4 0 | | Nov. | 28 18 7 | 28 28 42 |
| | Nov | 26 2 57 | 25 16 26 | | 0 | 8 12 29 | 8 6 11 |
| | DEC | 25 15 41 | 25 6 58 | | DEC | 28 6 51 | 28 11 6 |
| 985. | JAN | 24 4 26 | 28 28 16 | 988. | JAN | 21 19 86 | 21 21 48 |
| t). | O | 7 22 48 | 8 8 9 | A.G. | FEB | 20 8 20 | 20 7 48 |
| | FER | 22 17 10 | 22 16 85 | 15 5 41 | MAR. | 20 21 4 | 20 17 81 |
| 15 12 15 | MAR. | 24 5 54 | 24 9 59 | | APRIL | 19 9 48 | 19 8 82 |
| ĺ | Arnii. | 22 18 88 | 28 2 20 | | MAY . | 18 22 82 | 18 14 84 |
| | MAY . | 22 7 22 | 22 16 52 | | 0 | 2 16 54 | 8 1 45 |
| | June . | 20 20 6 | 21 5 15 | | JUNE . | 17 11 16 | |
| | July . | 20 8 50 | 20 15 42 | | Jura . | 17 0 0 | 16 17 48 15 9 48 |
| | O | 1 4 8 12 | 8 14 49 | | Aug | | |
| | Ava | | 19 1 0 | | SEPT. | 1 | |
| 1 | HEPT. | | 17 10 0 | | Oct. | 1 | |
| | Oct | | 16 19 27 | | Nov. | 26 21 18 | |
| | Nov. | 1 | | | DEC. | 1 | 1 |
| | Date | 15 0 80 | 14 17 20 | | DEC. | 11 10 40 | 1 |
| , | 1 | | | | | tering management has no made a femographic medical designation | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) |
|----------------------------|--------|------------------------------------|-----------------------------------|----------------------------|--------|------------------------------------|------------------------------------|
| A.D. 989. | | d. h. m. | d. h. m. | A.D. 992. | | d. h. m. | d. h. m. |
| F. | JAN | 10 4 24 | 10 13 16 | C.B. | JAN | 7 19 34 | 7 23 1 |
| March. | FEB | 8 17 8 | 9 0 0 | March. | FEB | 6 8 18 | 6 17 42 |
| d. h. m. 15 11 29 | MAR. | 10 5 52 | 10 9 18 | d. h. m. 15 4 56 | MAR | 6 21 2 | 7 10 8 |
| 15 11 25 | APRIL | 8 18 36 | 8 17 39 | | 0 | 21 15 24 | 21 10 22 |
| 1 | MAY . | 8 7 20 | 8 1 50 | | APRIL | 5 9 46 | 5 28 26 |
| | JUNE . | 6 20 4 | 6 10 49 | | MAY . | 4 22 30 | 5 9 51 |
| | JULY. | 6 8 48 | 5 21 36 | | June . | 8 11 14 | 3 18 4 |
| | Aug. | 4.21 32 | 4 10 47 | | July . | 2 23 58 | 3 1 7 |
| | | 3 10 16 | 3 2 29 | | 00 | (1 12 42 | 186 |
| | SEPT | 2.23 0 | 2 20 '5 | | Aug | 81 1 26 | 30 16 4 |
| | Oct | 1 11 44 | 1 14 27 | | 0 | (14 19 48 | 14 28 16 |
| | Nov | (1 0 28 | 1 8 17 | | SEPT. | 29 14 10 | 29 1 55 |
| | DEC | 30 13 12 | 31 0 23 | | Oct. | 29 2 54 | 28 14 14 |
| | | (00 10 14 | J. J. 40 | | Nov. | 27 15 38 | 27 5 16 |
| | | | | 140 | DEC. | 27 4 22 | 26 22 35 |
| 990. | JAN | 29 1 57 | 29 14 9 | | DEC. | | 20, 22, 00 |
| E. | FEB | 27 14 41 | 28 1 22 | | | ~ | 05 15 14 |
| 15 17 18 | MAR | 29 3 25 | 29 10 28 | 993. | JAN | 25 17 7 | 25 17 14 |
| | 0 | $\int 12 \ 21 \ 47$ | 13 0 9 | A. | FEB | 24 5 51 | 24 11 48 |
| | APRIL | 27 16 9 | 27 18 4 | 15 10 45 | MAR | 25 18 85 | 26 4 46 |
| | MAY . | 27 4 53 | 27 1 9 | | APRIL | 24 7 19 | 24 19 21 |
| | JUNE . | 25 17 37 | 25 8 42 | | MAY . | 28 20 8 | 24 7 14 |
| ł | JULY. | 25 6 21 | 24 17 54 | | June . | 22 8 47 | 22 16 49 |
| | Aυα | 23 19 5 | 23 5 39 | | JULY. | 21 21 81 | 22 0 59 |
| | SEPT | 22 7 49 | 21 20 23 | | Aug | 20 10 15 | 20 8 46 |
| | 0 | 7 2 11 | 7 3 9 | | SEPT | 18 22 59 | 18 17 8 |
| | Oct | 21 20 33 | 21 13 52 | | Oct | 18 11 48 | 18 2 50 |
| | Nov. | 20 9 17 | 20 9 0 | | Nov. | 17 0 27 | 16 14 18 |
| | DEC | 19 22 1 | 20 4 17 | | DEC | 16 18 11 | 16 8 45 |
| 991. | Jan | 18 10 46 | 18 22 4 | 994. | JAN | ∫15 1 56 | 14 19 8 |
| D. | Fев | 16 23 30 | 17 13 13 | G. | 0 | 29 20 18 | 80 6 59 |
| 15 23 7 | MAR | 18 12 14 | 19 1 21 | | FEB | 13 14 40 | 18 11 44 |
| | . 0 | 2 6 36 | 2 1 58 | 15 16 34 | MAR | 15 3 24 | 15 4 57 |
| | APRIL | 17 0 58 | 17 10 49 | | APRIL | 13 16 8 | 18 21 45 |
| | MAY . | 16 13 42 | 16 18 22 | | MAY . | 18 4 52 | 18 18 12 |
| | JUNE . | 15 2 26 | 15 1 2 | | JUNE. | 11 17 86 | 12 2 42 |
| | JULY. | 14 15 10 | 14 7 56 |] | July . | §11 6 20 | 11 14 18 |
| | Aug | 13 3 54 | 12 16 10 | | 0 | 26 0 42 | 25 12 8 |
| | SEPT. | 11 16 38 | |] | Aug | 9 19 4 | 10 0 18 |
| | 0 | 126 11 (| | | SEPT | 8 7 48 | 8 9 30 |
| | Oct. | 11 5 22 | 10 16 13 | | Oct | 7 20 32 | 7 18 52 |
| | Nov. | 9 18 6 | 1 | | Nov | 6 9 16 | 6 4 55 |
| | DEC. | 9 6 50 | 9 3 28 | | DEC | 5 22 0 | 5 15 54 |
| 1 | _I | | 1 | 1 | 1 | } | 1 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.)(| True New Moon. O Full Ecl.) |
|--|--------|---|------------------------------------|----------------------------|--------------|-------------------------------------|-----------------------------------|
| A.D. 995. | | d. h. m. | d. h. m. | A.D. 998. | | d. h. m. | d. h. m. |
| F. | JAN | $\begin{cases} 4 & 10 & 44 \\ 19 & 5 & 6 \end{cases}$ | 4 3 55 19 17 25 | В. | Jan | 1 1 54 30 14 38 | 1 11 38 |
| March. | FEB | 2 23 28 | 2 17 2 | March. | FEB | (30 14 36) | 30 23 10 |
| $egin{array}{cccccccccccccccccccccccccccccccccccc$ | MAR | 4 12 12 | 4 7 12 | d. h. m. | PEB | (1 3 22 | 1 9 0 |
| 10 22 22 | APRIL | 3 0 56 | 2 22 18 | 15 15 49 | MAR | 30 16 6 | 30 17 32 |
| | MAY. | 2 13 40 | 2 13 57 | | APRIL | 29 4 50 | 29 1 29 |
| | | (1 2 24 | 1 5 34 | | O | (13 23 12 | 14 9 37 |
| | JUNE. | 30 15 8 | 30 20 24 | | MAY . | 28 17 34 | 28 9 46 |
| | 0 | (15 9 30 | 15 0 1 | | June . | 27 6 18 | 26 19 25 |
| | July. | 30 3 52 | 30 10 0 | | July . | 26 19 2 | 26 7 19 |
| | Aug | 28 16 36 | 28 22 22 | | Aug. | 25 7 46 | 24 21 51 |
| | SEPT | 27 5 20 | 27 9 46 | 9 11 | SEPT | 23 20 30 | 23 14 45 |
| | Ocr | 26 18 4 | 26 20 42 | | Oct | 23 9 14 | 23 9 5 |
| | Nov | 25 6 48 | 25 7 29 | | 0 | 7 3 36 | 6 20 36 |
| | DEC | 24 19 32 | 24 18 20 | | Nov. | 21 21 58 | 22 3 34 |
| | | | | | DEC | 21 10 42 | 21 20 47 |
| 996. | JAN. | 28 8 17 | 23 5 17 | 000 | _ | 10 00 07 | 00 44 50 |
| E.D. | FEB. | 21 21 1 | 21 16 23 | 999. A. | JAN | 19 23 27 | 20 11 50 |
| 15 4 11 | MAR. | 22 9 45 | 22 4 2 | 15 21 38 | FEB | 18 12 11 20 0 55 | 19 0 1 4 20 10 1 2 |
| | APRIL | 20 22 29 | 20 16 39 | 19 21 98 | MAR. | 20 0 55 18 13 39 | 18 18 18 |
| | MAY . | 20 11 13 | 20 6 26 | | APRIL | (3 8 1 | 3 11 34 |
| | June . | 18 28 57 | 18 21 19 | | MAY. | 18 2 23 | 18 1 21 |
| | JULY . | 18 12 41 | 18 12 51 | | JUNE . | 16 15 7 | 16 8 28 |
| | Aug. | 17 1 25 | 17 4 20 | | JULY . | 16 3 51 | 15 16 41 |
| | SEPT | 15 14 9 | 15 19 11 | | Aug. | 14 16 35 | 14 3 |
| | Ocr. | 15 2 58 | 15 9 7 | | SEPT | 13 5 19 | 12 16 2 |
| | Nov. | 18 15 37 | 13 22 2 | | Oct. | (12 18 3 | 12 8 39 |
| | DEC. | 18 4 21 | 13 9 58 | | 0 | 27 12 25 | 27 12 31 |
| | | | | | Nov. | 11 6 47 | 11 3 10 |
| 997. | JAN. | 11 17 5 | 11 20 59 | | DEC | 10 19 31 | 10.22 4 |
| c. | FEB. | 10 5 49 | 10 7 9 | 1000 | 7 | 9 8 16 | 9 17 2 |
| 15 10 0 | MAR. | 11 18 84 | | 1000. G.F. | JAN. | 7 21 0 | 8 10 |
| 10 10 0 | APRIL | 10 7 18 | | 1 | FEB. | 8 9 44 | 8 23 3 |
| | MAY | (9 20 2 | 9 12 27 | 15 3 27 | MAR. | 6 22 28 | 7 10 1 |
| | 0 | 24 14 24 | 25 0 58 | 1 | APRIL MAY | | 6 18 3 |
| | JUNE . | | 8 0 5 | | JUNE . | | 5 1 2 |
| | July | | 7 18 37 | | JULY | | 4 8 |
| | Aug. | | 6 5 0 | | Aug. | | 1 |
| | SEPT. | | 4 21 38 | | SEPT. | | 1 |
| | Oot. | 4 11 42 | 4 14 39 | | DEL I. | (1 2 52 | 1 00 10 |
| | ~~ | . (3 0 20 | 8 7 6 | : } | Ocr. | . 30 15 36 | |
| | 0 | 17 18 4 | 8 17 7 31 | . | Nov. | | |
| | DEC. | . 2 18 10 | 2 22 15 | · | DEC. | | |
| | | | | | 250. | . | |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True Now Moon. (O Full Ect.) |
|----------------------------|--------|------------------------------|------------------------------------|----------------------------|--------|--|------------------------------------|
| A.D. 1001. | | d. h. m. | d. h. m: | A.D. 1004. | | d. h. m. | d. h. m. |
| E. | JAN | 27 5 48 | 27 12 27 | B.A. | JAN | 24 20 58 | 24 14 34 |
| | FEB | 25 18 32 | 26 6 2 | March. | FEB | 23 9 42 | 28 3 56 |
| March. | 0 | (12 12 54 | 12 9 4 | d. h. m. 15 2 42 | MAR | 23 22 26 | 28 18 18 |
| d. h. m. 15 9 15 | MAR. | 27 7 16 | 27 20 51 | 10 2 12 | APRIL | 22 11 10 | 22 9 3 0 |
| 10 0 10 | APRIL | 25 20 0 | 26 8 39 | | MAY. | 21 23 54 | 22 1 8 |
| | MAY. | 25 8 44 | 25 17 51 | | June. | 20 12 38 | 20 16 22 |
| | JUNE . | 23 21 28 | 24 1 22 | | | (5 7 0 | 4 23 51 |
| | JULY. | 23 10 12 | 23 8 20 | | JULY. | 20 1 22 | 20 6 46 |
| | Aug. | 21 22 56 | 21 15 50 | | Aug. | 18 14 6 | 18 19 59 |
| | | (5 17 18 | 5 18 56 | | SEPT. | 17 2 50 | 17 8 7 |
| - 8 | SEPT | 20 11 40 | 20 0 46 | | | | 16 19 29 |
| | Oct | 20 0 24 | 19 11 55 | | Oct | 16 15 34 | |
| | Nov. | 18 13 8 | 18 1 37 | 1 | Nov. | 15 4 18 | |
| | | | | | DEC | 14 17 2 | |
| | DEC | 18 1 52 | 17 17 49 | | 0 | 129 11 24 | 29 14 54 |
| 1002. | JAN | 16 14 37 | 16 11 48 | 1005. | JAN | 13 5 46 | 13 4 12 |
| D. | FEB | 15 3 21 | 15 6 20 | G. | FEB | 11 18 31 | 11 15 1 |
| | 0 | ſ 1 21 43 | 2 0 32 | 15 8 31 | MAR | 13 7 15 | 13 2 5 |
| 15 15 4 | MAR. | 16 16 5 | 17 0 5 | | APRIL | 11 19 59 | 11 18 51 |
| | APRIL | 1 5 4 49 | 15 15 53 | | MAY . | 11 8 43 | 11 2 47 |
| | MAY . | 14 17 33 | 15 5 6 | | June . | (9 21 27 | 9 17 1 |
| | JUNE. | 13 6 17 | 13 15 49 | | 0 | 24 15 49 | 24 17 0 |
| | JULY. | 12 19 1 | 13 0 41 | | JULY. | 9 10 11 | 9 8 18 |
| | Aug | (11 7 45 | 11 8 43 | | Aug | 7 22 55 | 8 0 1 |
| 1 | 0 | 26 2 7 | 25 19 5 | | SEPT | 6 11 39 | 6 15 82 |
| | SEPT | 9 20 29 | 9 16 53 | | Oct | 6 0 23 | 6 6 16 |
| | Ocr | 9 9 13 | 9 2 1 | | Nov. | 4 13 7 | 4 19 56 |
| | Nov | 7 21 57 | 7 12 40 | | DEC | (4 1 51 | 4 8 82 |
| | DEC | 7 10 41 | 7 1 7 | | 0 | 18 20 18 | 18 14 16 |
| 1003. | JAN. | 5 23 25 | 5 15 23 | 1006. | JAN. | 2 14 35 | 2 20 8 |
| C. | FEB. | (4129 | 4 7 12 | F. | FEB. | | 1 6 81 |
| | 0 | 19 6 31 | 19 16 37 | 15 14 20 | MAR. | 1 3 19 2 16 3 | 2 16 9 |
| 15 20 53 | MAR. | 6 0 53 | 6 0 0 | 10 11 20 | MAR | | |
| | APRIL | 4 13 37 | 4 16 55 | | APRIL | $\begin{cases} 1 & 4 & 47 \\ 90 & 17 & 91 \end{cases}$ | |
| | MAY . | 4 2 21 | 4 9 2 | | M | 30 17 81 | 80 10 51 |
| | JUNE . | 2 15 5 | 2 23 33 | | MAY . | 30 6 15 | 29 21 28 |
| | _ | (2 3 49 | 2 12 8 | | O | 14 0 87 | 14 8 59 |
| | JULY. | 31 16 33 | 31 23 1 | | JUNE. | (28 18 59 | 28 9 56 |
| | 0 | (15 10 55 | 14 21 56 | | JULY. | 28 7 48 | 28 0 25 |
| | AUG | 30 5 17 | 30 8 48 | | Aug | 26 20 27 | 26 16 89 |
| | SEPT | 28 18 1 | 28 18 17 | | SEPT | 25 9 11 | 25 9 51 |
| | Ост. | 28 6 45 | 28 4 7 | | Oct | 24 21 55 | 25 2 58 |
| 1 | Nov | 26 19 29 | 26 14 42 | | Nov | 28 10 39 | 23 19 3 |
| | DEC | 26 8 13 | 26 2 10 | | DEC | 8 5 1 | 7 18 58 |
| | | <u> </u> | | | DEC. | 122 23 23 | 28 9 29 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. Tull Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. O Full Ecl.) |
|--|--|--|---|----------------------------|--|--|--|
| Vernal Equinox. A.D. 1007. E. March. | Month. Jan Feb Mar April May . June . July . Aug . Sept Oct Nov Dec Jan Feb Mar April . O May . June . July . Aug . Sept Oct O Nov Dec Jan Feb | Moon. (O Full Ect.) (0 d. h. m. 21 12 7 20 0 51 21 13 36 20 2 20 19 15 4 18 3 48 17 16 32 16 5 16 14 18 0 14 6 44 12 19 23 12 8 12 10 20 57 9 9 41 9 22 25 { 8 11 9 23 5 31 7 28 53 6 12 37 6 1 21 4 14 5 8 2 49 { 2 15 38 17 9 55 { 1 4 17 80 17 1 80 5 45 28 18 29 27 7 18 28 19 57 { 12 14 19 | Moon. O Full Ecl.) d. h. m. 21 21 57 20 8 30 21 17 26 20 1 22 19 9 12 17 17 55 17 4 33 15 17 46 14 9 40 14 3 37 12 22 22 12 16 31 11 8 49 9 22 31 10 9 33 8 18 21 23 6 51 8 1 41 6 8 83 5 16 1 4 1 14 2 18 4 (2 8 59 17 11 40 (31 21 89 80 16 57 80 12 20 29 6 5 27 21 8 29 9 7 12 9 6 | Vernal | JAN. FEB. MAR. OAPRIL MAY. JUNE. JULY. AUG. OCT. NOV. DEC. JAN. FEB. MAR. APRIL MAY. JUNE JULY. AUG. SEPT. OCT. NOV. DEC. | Moon. (O Fall Ecl.) d. h. m. 18 3 18 16 16 2 18 4 46 { 1 23 8 16 17 30 16 6 14 14 18 58 14 7 42 12 20 26 { 11 9 10 26 3 32 10 21 54 9 10 38 8 23 22 7 12 7 6 0 51 7 13 35 6 2 19 5 15 3 4 3 47 3 16 31 { 2 5 15 31 17 59 30 6 43 29 19 27 28 8 11 27 20 55 26 9 39 { 10 4 1 24 22 23 25 11 7 | Moon. Full Ecl.) d. h. m. 18 6 52 17 1 20 18 17 32 1 18 5 17 6 46 16 17 9 15 1 25 14 8 87 12 15 51 11 0 7 26 6 45 10 10 12 8 22 40 8 18 37 7 6 42 6 0 55 7 19 2 6 11 48 6 2 17 4 14 15 4 0 3 2 8 32 81 16 48 30 1 29 29 11 28 27 28 3 27 12 19 26 3 12 10 15 27 24 19 19 25 12 2 |
| | APRIL MAY JUNE JUNE AUG. SEIT. O OCT. NOV. DEC. | 25 10 9 24 22 58 28 11 87 22 0 21 6 18 48 21 18 5 | 7 0 84 5 21 0 14 19 16 47 | | APRIL MAY JUNE JULY O AUG. SEPT. OCT. NOV. DEC. | . 23 12 35 . 22 1 19 . 21 14 3 (5 8 25 . (20 2 47 . 18 15 31 . 18 4 15 | 23 19 49 22 9 27 21 21 19 3 4 19 17 7 20 7 48 1 18 17 36 3 18 3 26 9 16 13 45 |

| Mean Vernal Equinox. | Month. | Mean New Moon. (O Full Ecl.) | True New Moon. (O Full Ecl.) | Mean Vernal Equinox. | Month. | Mean New Moon. | True New Moon. |
|----------------------------|---------------|------------------------------|------------------------------------|----------------------------|--------|--------------------|-----------------|
| A.D. 1013. | | d. h. m. | d. h. m. | A.D. 1016. | | d. h. m. | d. h. m. |
| D. | JAN | £14 18 28 | 14 12 36 | A.G. | JAN | 12 9 38 | 12 20 20 |
| March. | 0 | 29 12 50 | 30 1 38 | March. $d. h. m.$ | FEB | 10 22 22 | 11 7 45 |
| d. h. m. | FEB | 13 7 12 | 13 1 13 | 15 0 28 | MAR | 11 11 6 | 11 17 16 |
| 15 7 1 | MAR. | 14 19 56 | 14 14 47 | | APRIL | 9 23 50 | 10 1 25 |
| 1 | APRIL | 13 8 40 | 13 5 19 | } | MAY . | 5 9 12 34 | 9 8 59 |
| 1 | MAY. | 12 21 24 | 12 20 33 | | 0 | 24 6 56 | 24 16 22 |
| | June. | 11 10 8 | 11 12 0 | | June . | 8 1 18 | 7 17 0 |
| | JULY. | $\int 10 22 52$ | 11 3 0 | | JULY. | 7 14 2 | 7 2 28 |
| 1 | . 0 | 25 17 14 | 25 7 28 | | Aug | 6 2 46 | 5 14 2 0 |
| | AUG | 9 11 36 | 9 17 4 | | SEPT | 4 15 30 | 4 4 59 |
| | SEPT | 8 0 20 | 8 6 0 | | Ocr | 4 4 14 | 3 22 10 |
| | Oct | 7 13 4 | 7 17 59 | | Nov | § 2 16 58 | 2 16 52 |
| | Nov | 6 1 48 | 6 5 23 | | 0 | 17 11 20 | 17 5 26 |
| 1 | Dec | 5 14 32 | 5 16 27 | | DEC | 5 2 5 42 | 2 11 89 |
| 1014. | T | 4 3 17 | 4 0 15 | | | (81 18 26 | ••• |
| 0. | Jan Feb | 4 3 17 2 16 1 | 4 3 17 | | | ٠ | 1 5 6 |
| 15 12 50 | MAR. | 4 4 45 | 2 13 55 4 0 34 | 1017. | JAN | {30 7 10 | 80 20 10 |
| 10 12 00 | APRIL | 2 17 29 | 4 0 34 2 11 37 | F. | FEB | 28 19 54 | |
| | TIT KIL | (2 6 13 | 1 23 39 | | | ć | 1 8 27 |
| 1 | MAY . | 81 18 57 | 31 13 3 | 15 6 17 | MAR | 88 8 08 | 80 18 8 |
| 1 | June. | 30 7 41 | 30 3 47 | | APRIL | 28 21 22 | 29 1 58 |
| | 0 | (15 2 3 | 15 0 9 | | 0 | (18 15 44 | 18 18 6 |
| 1 | JULY. | 29 20 25 | 29 19 28 | | MAY. | 28 10 6 | 28 8 50 |
| | Aug | 28 9 9 | 28 11 24 | | JUNE . | 26 22 50 | 26 15 49 |
| 1 | SEPT | 26 21 53 | 27 2 51 | | JULY . | 26 11 84 | 26 0 1 |
| | Oct | 26 10 37 | 26 17 22 | | Aug | 25 0 18 | 24 10 80 |
| | Nov | 24 23 21 | 25 6 44 | ` | SEPT | 23 13 2 | 22 28 55 |
| 1 | DEC | 24 12 5 | 24 18 52 | | Oct | 28 1 46 | 22 16 28 |
| | | | | | 0 | (620 8 | 6 21 16 |
| 1015, B. | JAN | 23 0 49 | 23 5 49 | | Nov | (21 14 8 0) | 21 11 8 |
| | FEB | 21 13 33 | 21 15 40 | | Dec | 21 8 14 | 21 6 48 |
| 15 18 39 | MAR | 23 2 17 | 23 0 47 | 1018. | JAN | 19 15 59 | 20 1 29 |
| | APRIL | 21 15 1 | 21 9 46 | Е. | FEB. | 18 4 43 | 18 17 56 |
| | MAY . | 21 3 45 | 20 19 31 | 15 12 6 | MAR. | 19 17 27 | 20 6 28 |
| | O | 4 22 7 | 5 8 7 | - | APRIL | 18 6 11 | 18 17 51 |
| | JUNE . JULY . | 19 16 29 | 19 6 50 | | MAY . | 17 18 55 | 18 2 1 |
| | Aug. | 19 5 13 17 17 57 | 18 20 16 | | JUNE . | 16 7 89 | 16 8 55 |
| | SEPT. | 16 6 41 | 17 11 46 16 4 47 | - | JULY . | 15 20 23 | 15 15 88 |
| | Oct. | 15 19 25 | 16 4 47 15 22 20 | | Aug | 14 9 7 | 18 28 17 |
| | Nov. | (14 8 9 | 14 15 18 | | SEPT | 12 21 51 | 12 8 50 |
| | 0 | 29 2 31 | 28 16 8 | | Oct | 12 10 35 | 11 21 8 |
| | DEC | 13 20 53 | 14 6 47 | | Nov | 10 28 19 | 10 12 15 |
| | | 50 | 0 | | DEC | 10 12 3 | 10 5 58 |
| | · | | | | | | |